

# Geotech 1.66 Reclaimer

Installation and Operation Manual





## Table of Contents

DOCUMENTATION CONVENTIONS .....	2
Section 1: System Description .....	3
Section 2: System Installation .....	4
Section 3: System Operation .....	4
Section 4: System Maintenance.....	6
Section 5: System Troubleshooting .....	7
Section 6: System Specifications .....	8
Section 7: Replacement Parts List .....	10
The Warranty.....	13

# 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 Description

## Function and Theory

The Geotech 1.66 Reclaimer can be configured as a Top Fill, Bottom Fill, or Top and Bottom Fill fixed intake, positive air displacement pump. The Geotech 1.66 Reclaimer is designed to withstand the most aggressive down well environments including highly corrosive fluids without the risk of material breakdown or failure.

A PFAS-Free 1.66 Reclaimer model is also available. The PFAS-Free 1.66 Reclaimer is made with PFAS-Free materials such as 316 Stainless Steel, high-density polyethylene (HDPE) and Buna-Nitrile.



The Geotech 1.66 Reclaimer will recover fluids from depths up to 500' (152m). Refer to *Section 3: System Operation*.

Flow rates of up to 3 GPM (11.4 LPM) are possible. Refer to *Section 6: System Specifications*.

The Geotech 1.66 Reclaimer will operate in wells 2" (5cm) inside diameter or larger vertical wells.

## Section 2: System Installation

Attach product discharge and air supply hoses to the proper barbed fittings on the pump. Refer to Figure 1-1 and 1-2 below for fitting configurations.

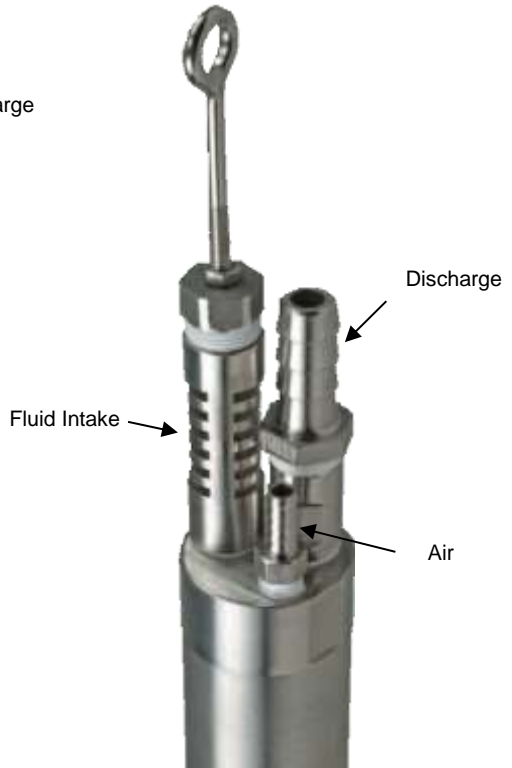
If pump configuration was not sent as a complete system, use the following steps for assembly:

1. Attach air supply hose to Geotech Pneumatic Controller air supply fitting.
2. Ensure all hoses are installed properly and securely to the fittings.
3. Attach the safety cable to the support look using proper crimps or cable clamps.

The 1.66 Reclaimer can now be lowered into the recovery well. For optimum efficiency, the 1.66 Reclaimer must be positioned in the well with intake adequately submerged.



**Figure 1-1:** 1.66" Reclaimer  
Bottom Fill



**Figure 1-2:** 1.66" Reclaimer  
Top Fill

# Section 3: System Operation

## Top Fill Configuration



Compressed air is utilized in this system. To determine pressure requirements, use .5 PSI per foot (.03 bar per 30.5cm) of lift plus ten. For example, 30' (9m) of head would need a minimum of 25 PSI (1.7 bar). Consult a controller manual for air pressure requirements needed.

The Top Fill configuration for the 1.66 Reclaimer is placed in a recovery well with the top inlet submerged below static groundwater. Combined with the Geotech Pneumatic Controller, the 1.66 Reclaimer cyclically fills and empties.

## Bottom Fill Configuration



Well recharge rate and time sequence settings on the Geotech Pneumatic Controller will affect the maintainable fluid level.

The Bottom Fill configuration for the 1.66 Reclaimer is placed in a recover well with the bottom intake submerged below static groundwater. Combined Geotech's Pneumatic Controller, the 1.66 Reclaimer cyclically fills and empties.



Well recharge rate and time sequence settings on the Geotech Pneumatic Controller will affect the maintainable fluid level. See Figure 3-1.

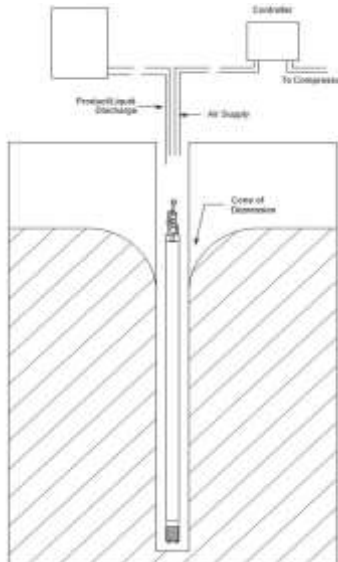
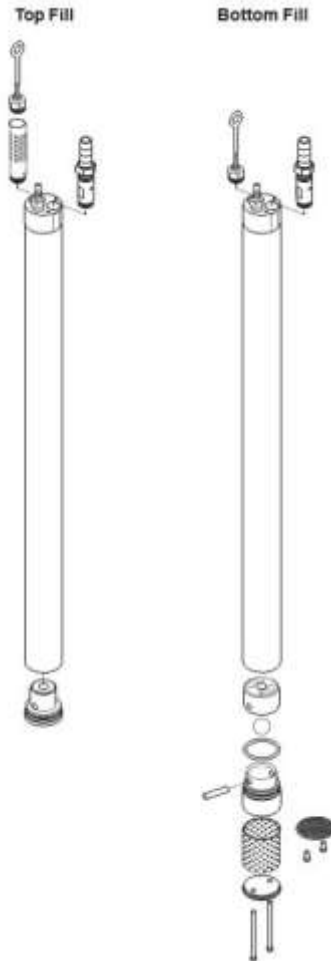


Figure 3-1: 1.66" Reclaimer

## Section 4: System Maintenance

The Geotech 1.66 Reclaimer has been designed to be virtually maintenance free. In the event clogging occurs in the pump or trapped particulate in the check ball seats, disassemble the 1.66 Reclaimer pump and rinse with clean water to dislodge any matter. The 1.66 Reclaimer is constructed of 300 series Stainless Steel and Polytetrafluoroethylene\* (PTFE) to provide many years of continued service with minimal maintenance. See Figure 4-1.

\*Except in the case of the PFAS-Free models.



**Figure 4-1:** 1.66 Reclaimer Maintenance



## Section 5: System Troubleshooting

**Problem:** Pump does not discharge fluid to the surface.

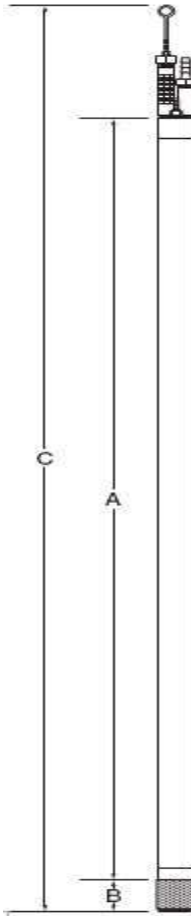
**Solutions:**

- Check the controller to ensure it is functioning properly.
  - Consult controller manual.
- Ensure that the air pressure is adequate to overcome the total dynamic head pressure the pump is working against.
  - Consult the controller manual for air pressure requirements.
- Inlet screen is clogged.
  - Remove the pump from the well, disassemble, and clean screen.
- Inlet pipe plug is clogged.
  - Remove pump from the well, disassemble, clear the clog, and clean plug.
- Air exhaust vent hose is clogged.
  - Remove the pump from the well, disassemble, and clear the vent hose.
- Hoses are kinked or cut.
  - Replace damaged hoses.

# Section 6: System Specifications

## 1.66 Reclaimer

Outside Diameter	1.66" (4.22cm)
Max. Operating Depth	500' (152m)
Min. Well Inner Diameter	2" (5cm)
Operating Pressure Range	10-300 PSI (.7 - 20.7 bar)
Fittings	Stainless Steel
Fluid Discharge	1/2" – 3/4"
Air Supply	1/4" – 3/8"

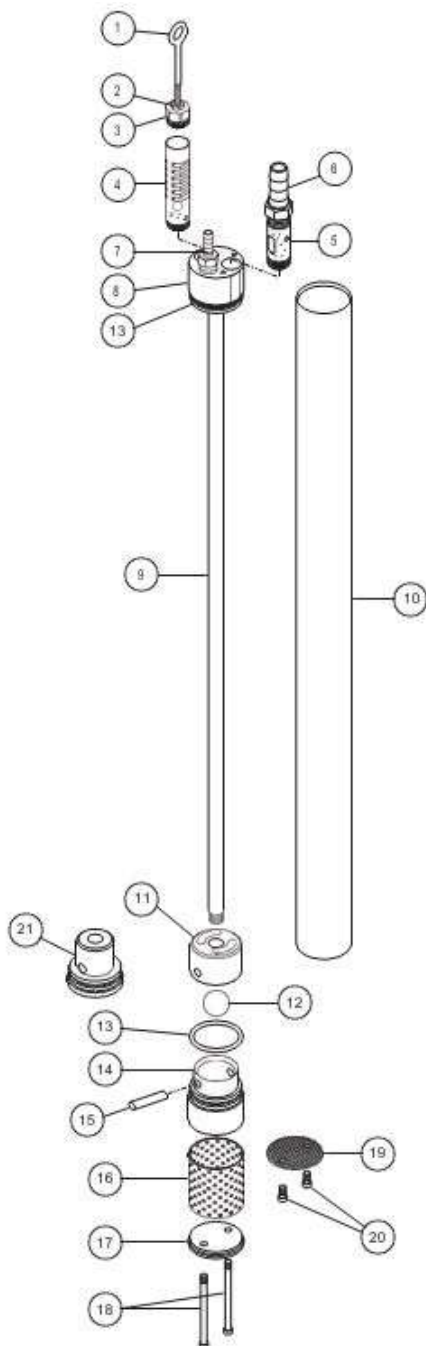


**Figure 6-1:** 1.66 Reclaimer Specification Diagram  
*\*Refer to Table 6-1: 1.66 Reclaimer Specifications*

**Table 6-1: 1.66 Reclaimer Specifications**

1.66 Reclaimer Configuration	Dimensions - in. (cm)			Weight lbs. (kg)	Volume/Cycle gallons (L)	Max. Flow Rate GPM (LPM)
	A	B	C			
<b>24" Top Fill</b>	24 (61)	0	30.25 (76.8)	4.0 (1.8)	0.1 (.4)	2 (7.6)
<b>24" Bottom Fill (No Screen)</b>	24 (61)	0	27.25 (69.2)	4.0 (1.8)	0.1 (.4)	2 (7.6)
<b>24" Bottom Fill (Flat Screen)</b>	24 (61)	0.25 (.6)	27.5 (69.8)	4.5 (2)	0.1 (.4)	2 (7.6)
<b>24" Bottom Fill (2" Screen)</b>	24 (61)	2 (5)	29.25 (74.3)	5.0 (2.3)	0.1 (.4)	2 (7.6)
<b>24" Top &amp; Bottom Fill (No Screen)</b>	24 (61)	0	30.25 (76.8)	4.0 (1.8)	0.1 (.4)	2 (7.6)
<b>24" Top &amp; Bottom Fill (Flat Screen)</b>	24 (61)	0.25 (.6)	30.5 (77.5)	4.5 (2)	0.1 (.4)	2 (7.6)
<b>24" Top &amp; Bottom Fill (2" Screen)</b>	24 (61)	2 (5)	32.25 (81.9)	5.0 (2.3)	0.1 (.4)	2 (7.6)
<b>36" Top Fill</b>	36 (91)	0	42.25 (107.3)	5.4 (2.4)	0.2 (.8)	2.4 (9)
<b>36" Bottom Fill (No Screen)</b>	36 (91)	0	39.25 (99.7)	5.4 (2.4)	0.2 (.8)	2.4 (9)
<b>36" Bottom Fill (Flat Screen)</b>	36 (91)	0.25 (.6)	39.5 (100.3)	5.9 (2.7)	0.2 (.8)	2.4 (9)
<b>36" Bottom Fill (2" Screen)</b>	36 (91)	2 (5)	41.25 (104.8)	6.4 (2.9)	0.2 (.8)	2.4 (9)
<b>36" Top &amp; Bottom Fill (No Screen)</b>	36 (91)	0	42.25 (107.3)	5.4 (2.4)	0.2 (.8)	2.4 (9)
<b>36" Top &amp; Bottom Fill (Flat Screen)</b>	36 (91)	0.25 (.6)	42.5 (107.9)	5.9 (2.7)	0.2 (.8)	2.4 (9)
<b>36" Top &amp; Bottom Fill (2" Screen)</b>	36 (91)	2 (5)	44.25 (112.4)	6.4 (2.9)	0.2 (.8)	2.4 (9)
<b>48" Top Fill</b>	48 (122)	0	54.25 (137.8)	7.8 (3.5)	0.4 (1.5)	3 (11.4)
<b>48" Bottom Fill (No Screen)</b>	48 (122)	0	51.25 (130.2)	7.8 (3.5)	0.4 (1.5)	3 (11.4)
<b>48" Bottom Fill (Flat Screen)</b>	48 (122)	0.25 (.6)	51.5 (130.8)	8.3 (3.8)	0.4 (1.5)	3 (11.4)
<b>48" Bottom Fill (2" Screen)</b>	48 (122)	2 (5)	53.25 (135.2)	8.8 (4.0)	0.4 (1.5)	3 (11.4)
<b>48" Top &amp; Bottom Fill (No Screen)</b>	48 (122)	0	54.25 (137.8)	7.8 (3.5)	0.4 (1.5)	3 (11.4)
<b>48" Top &amp; Bottom Fill (Flat Screen)</b>	48 (122)	0.25 (.6)	54.5 (138.4)	8.3 (3.8)	0.4 (1.5)	3 (11.4)
<b>48" Top &amp; Bottom Fill (2" Screen)</b>	48 (122)	2 (5)	56.25 (142.9)	8.8 (4.0)	0.4 (1.5)	3 (11.4)

## Section 7: Replacement Parts List



Item	Qty	Description	Part No.
1	1	BOLT, SS6, 10-24 x 3", EYE W/NUT	16600133
2	1	NUT, SS8, 10-24	11200650
3	1	PLUG, HANGER, SS4, 1.66	26600178
4	1	INTAKE ASSY, UPPER, 1.66	56600056
5	1	ASSY, DISCHARGE, 1.66	56600068
6	1	HOSEBARB, SS6, 1/2 x 3/8 MPT	16600217
7	1	HOSEBARB, SS6, 1/4 x 1/8 MPT	17200072
8	1	HEAD, RECLAIMER, 1.66, CAP, UPPER	26600217
9	1	PIPE, CENTER, SS4, 1/4 x 24, 1.66 RECLAIMER	26600213
	1	PIPE, CENTER, SS4, 1/4 x 36, 1.66 RECLAIMER	26600214
	1	PIPE CENTER, SS4, 1/4 x 48" 1.66 RECLAIMER	26600215
10	1	HOUSING, RECLAIMER, 1.66, SS4, 24"	56600063
	1	HOUSING, RECLAIMER, 1.66, SS4, 36"	56600064
	1	HOUSING, RECLAIMER, 1.66, SS4, 48"	56600065
11	1	CAP, BOTTOM INLET, 1.66	26600070
12	1	BALL, TFE, 3/4"	17500085
	1*	*BALL, HDPE, 3/4"	16600402
13	2	O-RING, VITON, #126	17500104
	2*	*O-RING, #126, BUNA-N	16600401
14	1	BOTTOM INLET, SS, 1.66	26600071
15	1	PIN, DOWEL, SS8, 1/4 x 1.5"	16600124
16	1	SCREEN, INLET, SS, 1.66 x 2	26600083
17	1	CAP, BOTTOM INLET, SCREEN, 1.66	26600072
18	2	SCREW, SS8, 8-32 x 2.25", SHCS	16600132
19	1	SCREEN, INLET, SS, 1.66, FLAT	26600134
20	2	SCREW, SS6, 8-32 x 3/8" SHCS	16600130
21	1	CAP, BOTTOM BLANK, 1.66	26600069
		MANUAL, RECLAIMER, 1.66	26600222

\*Bottom check ball and o-rings for PFAS-Free Reclaimer models. LDPE tape is used on MPT threads on hose barbs so that PTFE tape can be avoided.

<b>EDCF #</b>	<b>Description</b>	<b>Date</b>
	Previous Release	6/10/2012
2042	Changed part numbers and descriptions (parts 9, 17, 20) changed manual into 5 ½ X 8 ½ format, minor editing. StellaR	2/14/2017
Project 1675	Added PFAS Free model – StellaR/TA	7/12/18

# 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.

**Geotech Environmental Equipment, Inc.**

2650 East 40th Avenue Denver, Colorado 80205

(303) 320-4764 • **(800) 833-7958** • FAX (303) 322-7242

email: [sales@geotechenv.com](mailto:sales@geotechenv.com) website: [www.geotechenv.com](http://www.geotechenv.com)