

Operational and maintenance of SeptiTech *STAAR*®

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Residential & Commercial
Denitrification Units

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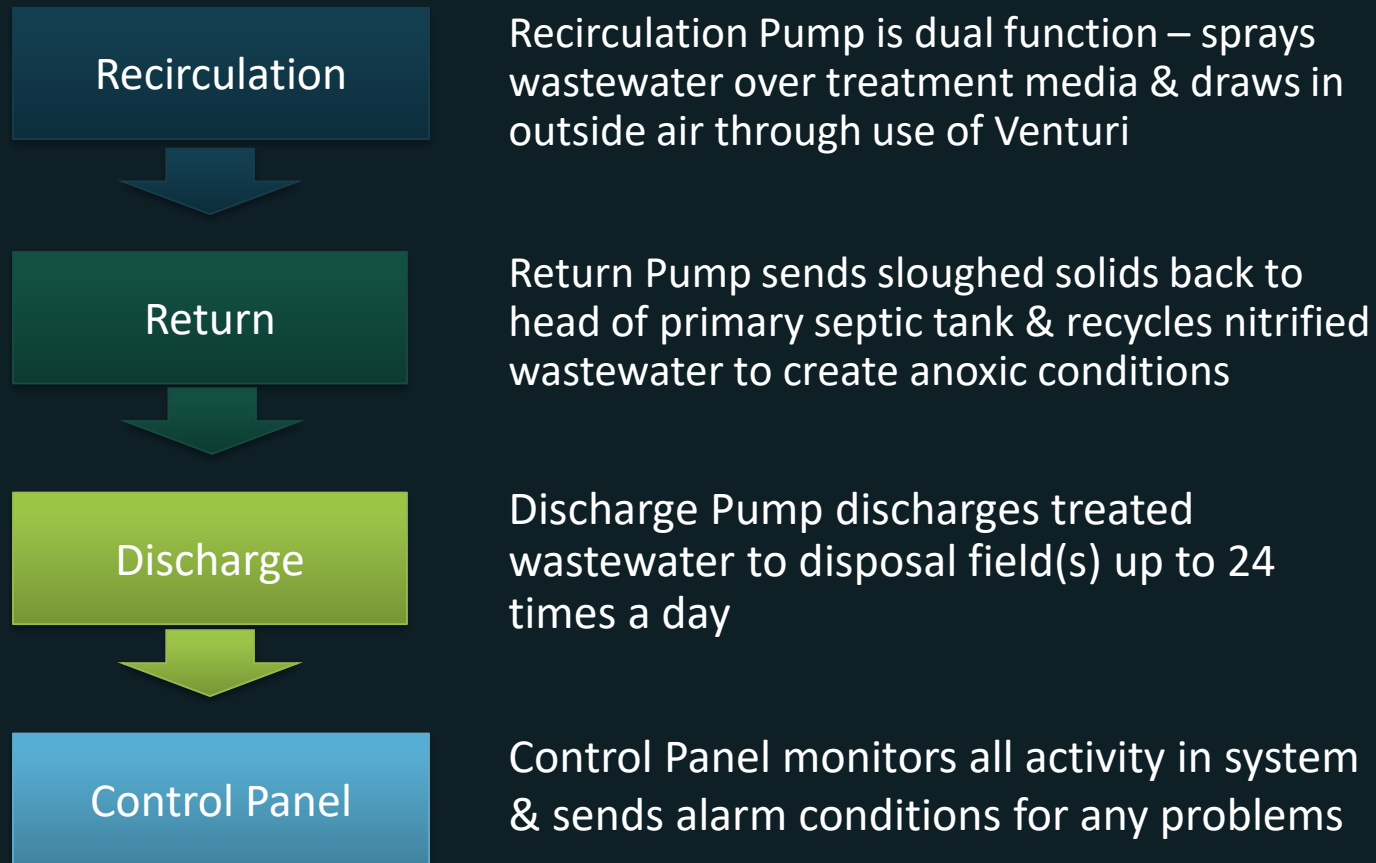
Disclaimer

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SeptiTech Trickling Filter

- ❖ Simple and Stable Process
- ❖ Treats High Organic Loads
- ❖ Efficient in Converting Ammonia to Nitrate
- ❖ Handles and Recovers from Shock Loads
- ❖ Relatively Low Power Requirements
- ❖ ↓Sludge than Suspended Growth Systems
- ❖ Moderate Operator Skill Level
- ❖ Low Operating Cost

SeptiTech System Operation



SeptiTech Installation



Control Panel

Air Intake snorkel

Disposal Field

2 Compartment Primary Tank

SeptiTech Treatment Processor

Residential System Overview



Primary Septic Tank

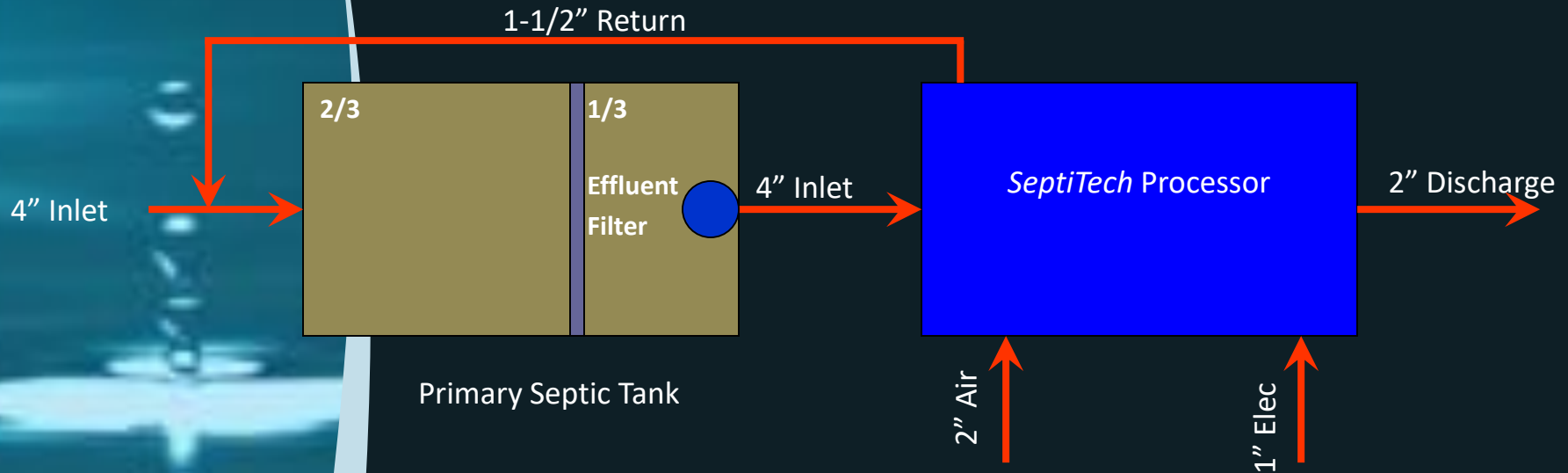
- ✓ 2 Compartment
- ✓ Effluent Filter

SeptiTech Processor

- ✓ Polystyrene Bead Treatment Media
- ✓ Self Cleaning Processor

External Piping

- ✓ Inlet / Discharge Line
- ✓ Return Line
- ✓ Air Intake
- ✓ Electrical Conduit



The logo for STAAAR features the letters 'S', 'T', 'A', 'A', 'A', and 'R' in a bold, stylized font. The top half of the letters is blue, and the bottom half is green. The letters are outlined in black and have a slight 3D effect. The 'A's are particularly tall and narrow, while the 'S' and 'R' are wider and shorter.

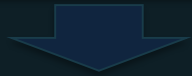
Smart Trickling Anaerobic/Aerobic Recirculating Filter Systems

Residential Treatment Media



Residential Control Panel

NEMA 4x
Enclosure



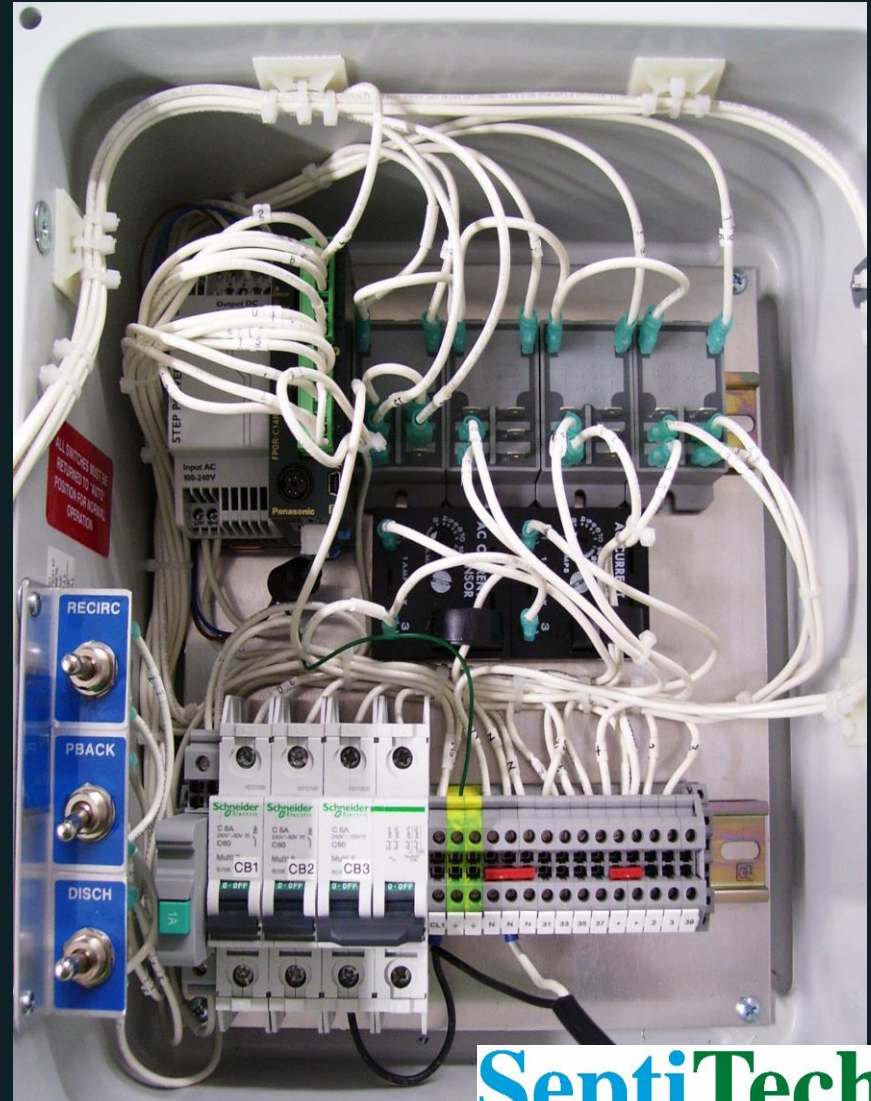
Audible / Visual
Alarm



Hand / Off / Auto
Switches

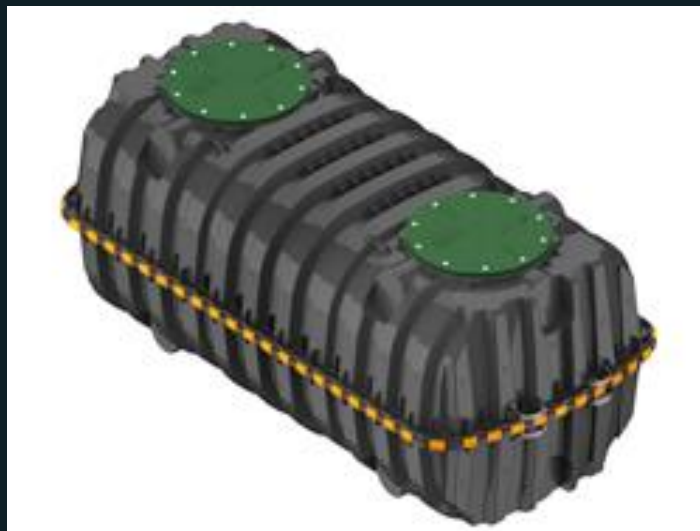


Removable OIT



Residential Processors tanks

Processor Model	Bedrooms	Tank Capacity
STAAR 0.5	4	1,060 Gallons
STAAR 0.75	6	1,250 Gallons
STAAR 1.0	8	1,500 Gallons



SeptiTech[®]
a subsidiary of Bio-Microbics, Inc.

SeptiTech Residential System



SeptiTech[®]
a subsidiary of Bio-Microbics, Inc.

Operation & Maintenance

- ❖ Onsite Visual Inspection of All System Components
 - ❖ Tank, pumps, float switches, control panel, telemetry and audio/visual alarm
 - ❖ Visual inspection of electrical splices and contacts, check/record amperage and voltage readings
 - ❖ Visual inspection of filter media
 - ❖ Exercise all mechanical valves
- ❖ Sensory examination of treated effluent for clarity, odor, oily sheen, foaming or any other unusual characteristics
- ❖ Download flow data – 90 days of flow stored in PLC
- ❖ Maintain inspection log with entries for all service activities, observations, and field test readings.

Operation & Maintenance

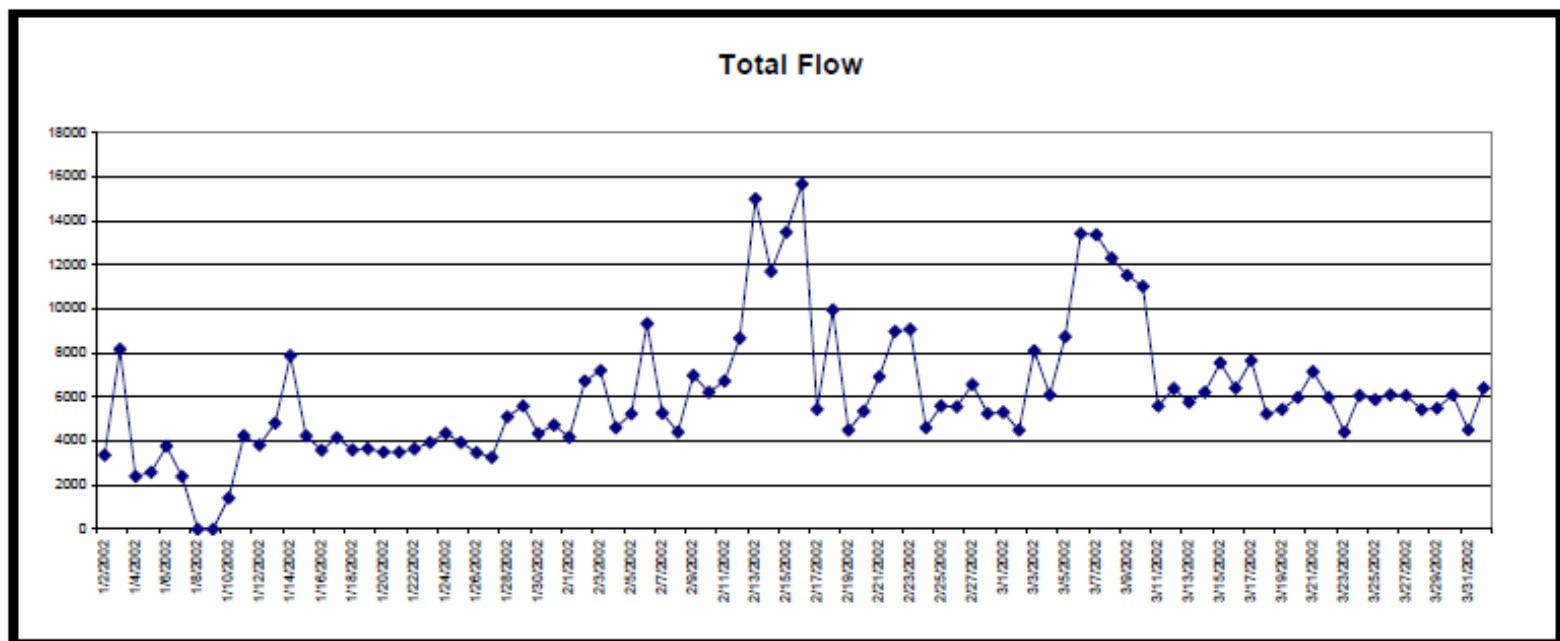


Typical Report Generated from SeptiTech Modem

Report Date 4/2/2002 12:08:16 *Customer*

Total Average Flow	4282
Peak Flow	15672
Usage - Gallons	1891512
System Run Days	441
Sys#1 90 Day Avg Flow	3922
Sys#2 90 Day Avg Flow	2177

System Configure	4665
Pump Configure	95
S1 Feed Back Disable	0
S2 Feed Back Disable	0
System #1 Peak Flow	10272
System #2 Peak Flow	8064
Program	Dual M3000



SeptiTech Product Advantages

❖ Easily fine tuned process

PLC controls & monitors system, fully customizable



Collects & stores operating data



Remote communication capabilities

