

Advanced Wastewater Treatment Systems

SeptiTech[®]
a subsidiary of BioMicrobics, Inc.

STAAAR[®]

Smart Trickling Filter System



*PLC controlled system -
collects & stores 90 days of data*



*NSF/ANSI Standard 40, Class 1 &
STD 245 (nitrogen reduction) Certified*



*Consistently achieves 98% BOD/TSS
reduction & 80-95% nitrogen reduction*



RESIDENTIAL • COMMERCIAL • COMMUNITY

BETTER WATER. BETTER WORLD.[®]

www.septitech.com

SIMPLE • LOW



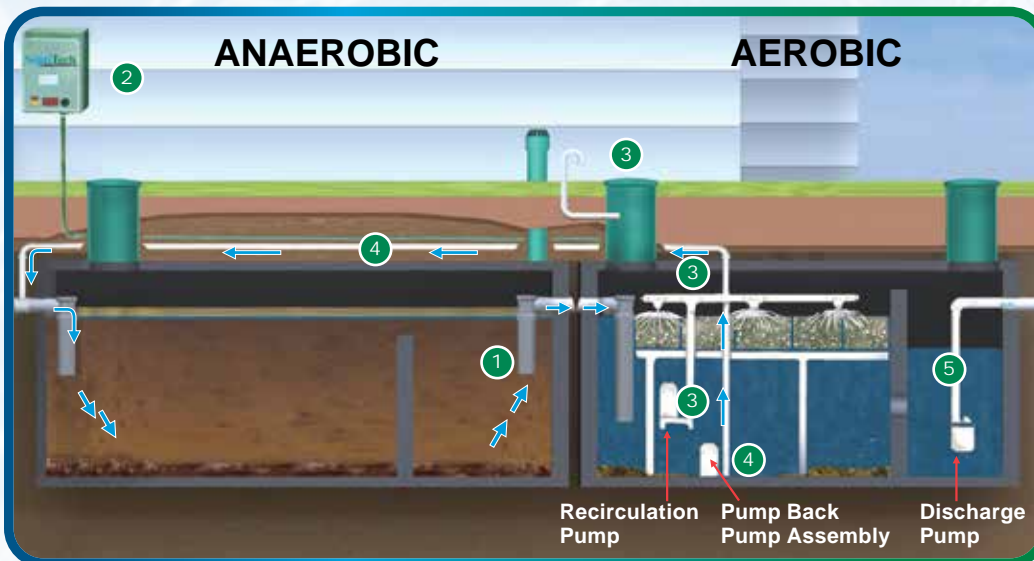
SeptiTech® STAAR® (Smart Trickling Anaerobic/Aerobic Recirculation) Filter Systems are designed for both multi-family domestic and high-strength commercial wastewater from 100 gpd to 150,000+ gpd treatment applications. **SeptiTech's** "Smart" technology allows the simple, automatic and reliable equalization and clarification processes. The biological trickling filter

technology also maintains low levels of Nitrate-N and achieves lower operating costs and power requirements with all below-grade components that fit readily in available concrete, plastic or fiberglass tanks.

Suitable in areas where large tracts of land are not available for land intensive wastewater treatment systems and may qualify for equivalent secondary discharge standards. Effective and dependable, **SeptiTech STAAR** systems are appropriate for small-to-medium-sized communities to rapidly reduce soluble BOD5 with efficient nitrification and denitrification for environmentally-sensitive areas

HOW IT WORKS!

- 1 After settling in the **Anaerobic zone**, the influent wastewater flows into the bottom of the trickling filter mixing with the treated wastewater.
- 2 The **control panel** senses "surge flow" and "low flow" activity automatically adjusting the discharge rate as needed. It even senses a "no flow" situation to "slow down" or put the system into "sleep" mode.
- 3 With the **recirculation pump**, the combination of wastewater and air that is passively drawn in through venturis trickles down through the filter media. **For the commercial system:** 2 stages and 2 types of media used with multiple returns for an optimum treatment process.



- 4 **Pump back pump assembly** transfers the wastewater to the settling zone to remove sludge from the **Aerobic zone**. All sludge management is in the **Anaerobic zone**, which also performs denitrification.
- 5 After treatment, a **discharge pump** will send small, frequent time doses to the leachfield to ensure optimal soil absorption.

COST • ROBUST



- Single-Family homes
- Multi-Family Properties
- Apartment Complexes
- Community/Subdivision
- Small Municipal/Village



- Schools/Universities
- RV/Mobile Home Parks
- Country Club/
Golf Courses
- Restaurants/Cafes/Pubs
- Office/Business Parks
- Resort Areas/Hotels
- Shopping Centers/
Food Courts
- Military Posts/Army
Barracks
- Guard/Police/
Fire Stations
- Recreational Facilities
- Highway Rest Areas
- Power Stations
- Laundries
- Wineries/Farmsteads
- Supermarkets/
Food Stores
- Food Packaging Plants
- Beverage Facilities
...and more!

SeptiTech® STAAR® Filter System

UNIT	MAXIMUM TREATMENT CAPACITY**	TANK VOLUME
STAAR® 0.5*	500 GPD [1893 LPD]	1000 Gal [3787 L] <i>Standard Septic Tank</i>
STAAR® 0.75*	750 GPD [2839 LPD]	1250 Gal [4732 L] <i>Standard Septic Tank</i>
STAAR® 1.0*	1000 GPD [3785 LPD]	1500 Gal [5678 L] <i>Standard Septic Tank</i>
STAAR® 1.2*	1200 GPD [4542 LPD]	2000 Gal [7571 L]
STAAR® 1.5*	1500 GPD [5678 LPD]	4000 Gal [15142 L]
STAAR® 3.0	3000 GPD [11 m³/d]	6000 Gal [22.7 m³]
STAAR® 4.5	4500 GPD [17 m³/d]	8000 Gal [30.2 m³]
STAAR® 6.0	6000 GPD [23 m³/d]	(2) 6000 Gal [22.7 m³]
STAAR® 9.0	9000 GPD [34 m³/d]	(2) 8000 Gal [30.2 m³]
STAAR® 13.5	13500 GPD [45 m³/d]	(3) 8000 Gal [30.2 m³]
STAAR® 18.0	18000 GPD [68 m³/d]	(4) 8000 Gal [30.2 m³]
STAAR® 27.0	27000 GPD [102 m³/d]	(6) 8000 Gal [30.2 m³]

NOTE: Systems can be fully assembled prior to shipping or manually assembled on site. Please see product drawing for design specifications and recommended exterior tankage sizing. Treatment modules shall be installed inside tanks that are locally approved and manufactured using watertight materials. Electrical options are available to meet all worldwide electrical specifications.

Extra denitrification (-Denite) units are available for higher nitrogen removal. Please see product drawings and/or manual for further details.

*NSF/ANSI Standard 40, Class 1 and Standard 245 (Nitrogen Reduction) certified system with passing the USEPA-ETV (Environmental Technology Verification) Program.

**Treatment capacity/volume/hydraulic capacities are rated based on biological loading (BOD), hydraulic and other project specific considerations. Please note that only residential applications or those applications requiring treatment for only sanitary wastewater may be designed from the volume and number of people per module. Actual capacity may vary with local conditions and performance goals.

ADVANTAGES & PERFORMANCE

All below grade components, the “Smart” PLC control panel operates the “dual-purpose” recirculation pump not only to spray the wastewater over treatment media, it also passively draws in outside air to nitrify the bacteria in the treatment tank.

The return pump sends the flocked “activated sludge” to the anoxic, primary tank which denitrifies and produces less sludge compared to other systems. All solid management is done in the septic tank - no pumping required.

The discharge pump typically releases the treated effluent in “micro doses” to disposal field(s) 24 times a day and can be adjusted for a variety of environmental site conditions and/or performance goal considerations.

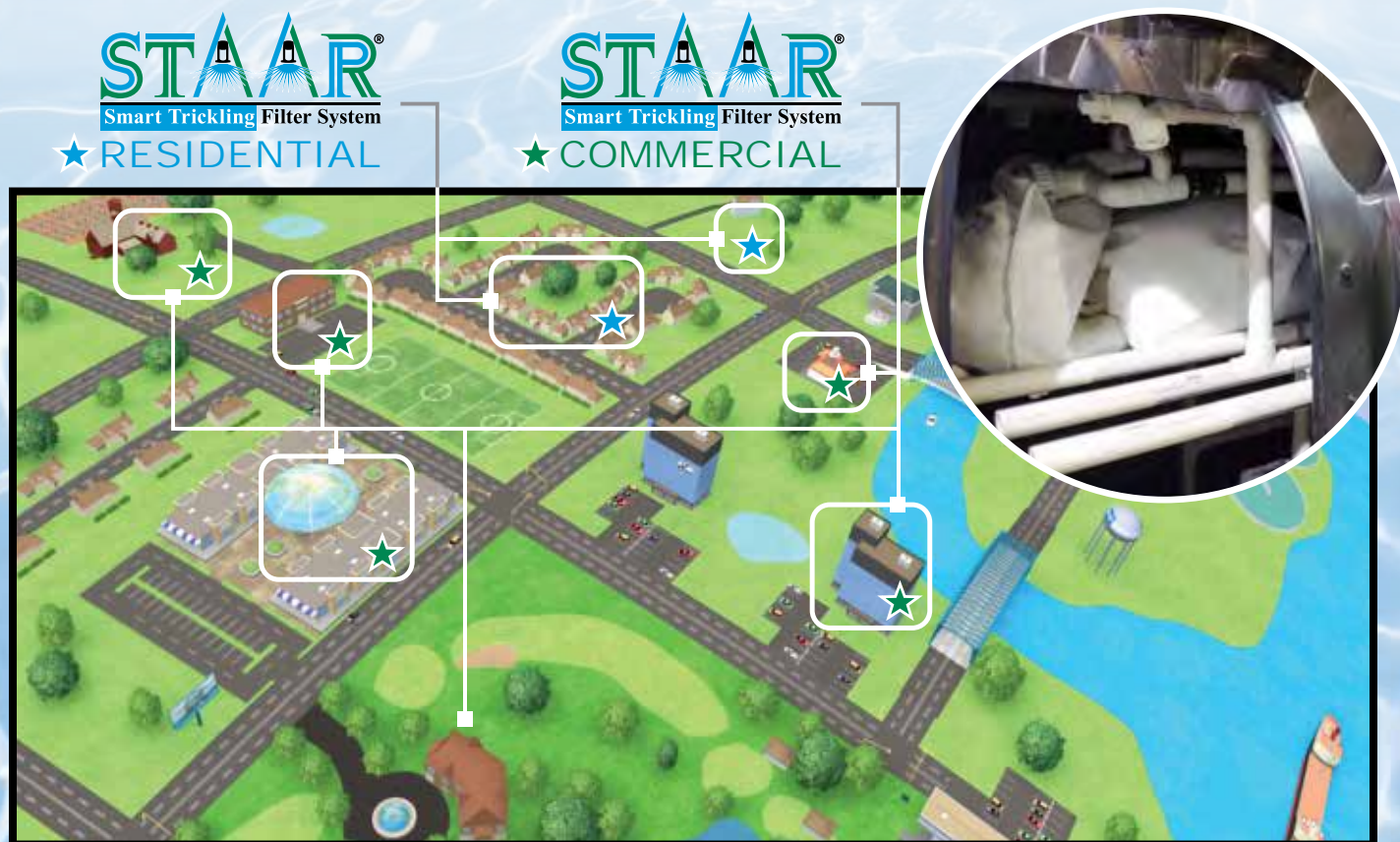
The STAAR™ Filter Commercial Systems utilize partially submerged media to treat high organic loads with durable process elements and low power requirements.





Since 1996, SeptiTech, a subsidiary of BioMicrobics, Inc. has continued to manufacture the certified, EPA “Innovator” Technology, (Region 1) award-winning, STAAR® (Smart Tricking Anaerobic/Aerobic Recirculating) Filter Systems. These “biological” trickling filter systems are routinely specified for homes, communities, resorts, schools, shopping centers, restaurants, and more. SeptiTech has designed affordable and sustainable

wastewater treatment products for properties not hooked up to a public utilities. Relentless research, development and continuous product improvement goes into producing the most effective, reliable, highest value and owner-friendly wastewater treatment systems in the industry. We can assist providing an advanced wastewater treatment system whether in an environmentally sensitive area, waterfront property, or new construction!



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