

solidBLEX™

SIC SLUDGE THICKENING



Worldwide Experts in Water Treatment





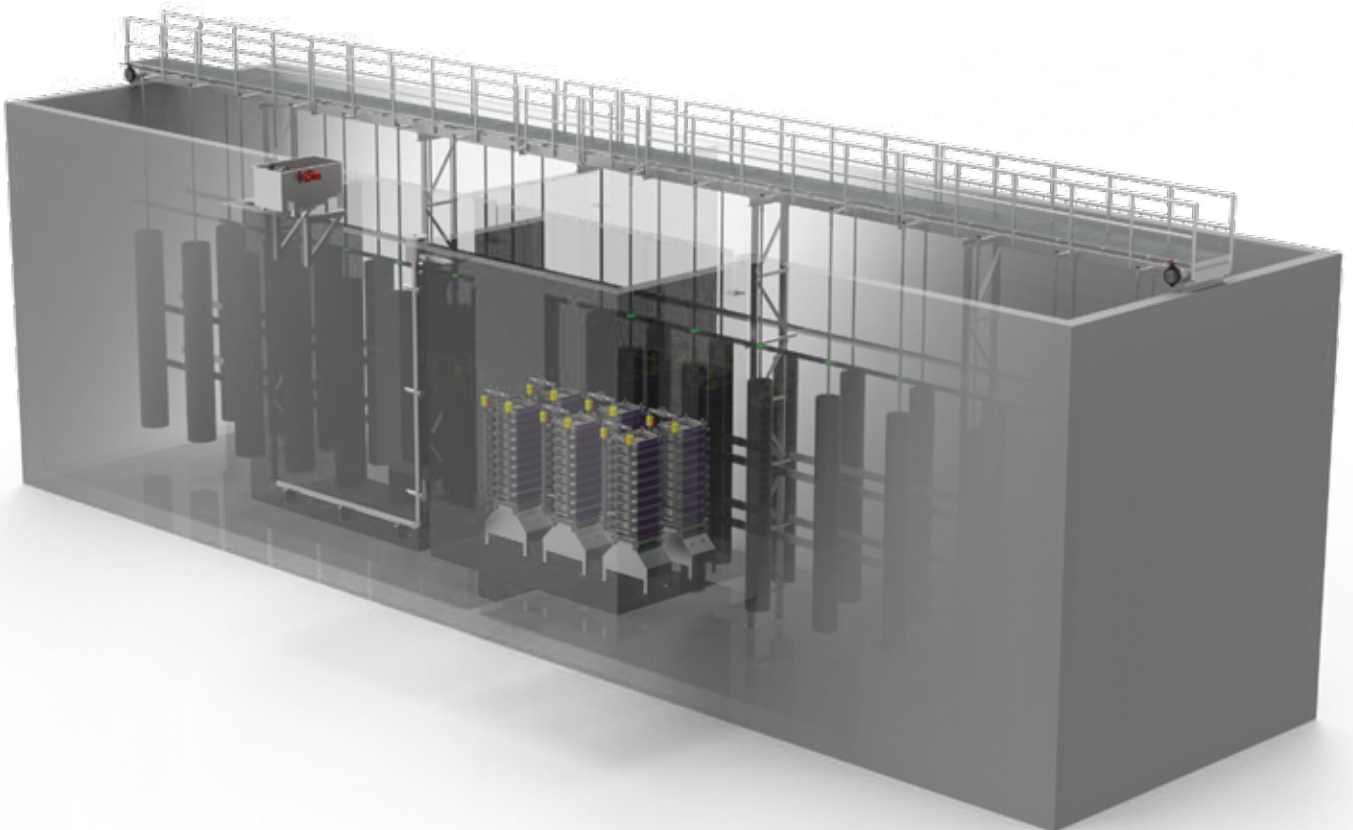
solidBLEX™

SiC SLUDGE THICKENING

Wastewater treatment is a challenge in and of itself, but dealing with the leftover sludge presents a whole new set of issues. When managed poorly, sludge management can be very costly, bad for the environment, and make a real stink – literally.

solidBLOX transforms wastewater treatment plants by optimizing sludge handling process while lowering effluent NH₃ and TP. When coupled with aerobic digestion, solidBLOX eliminates foul odors while producing reuse quality effluent, which is good for all of us.

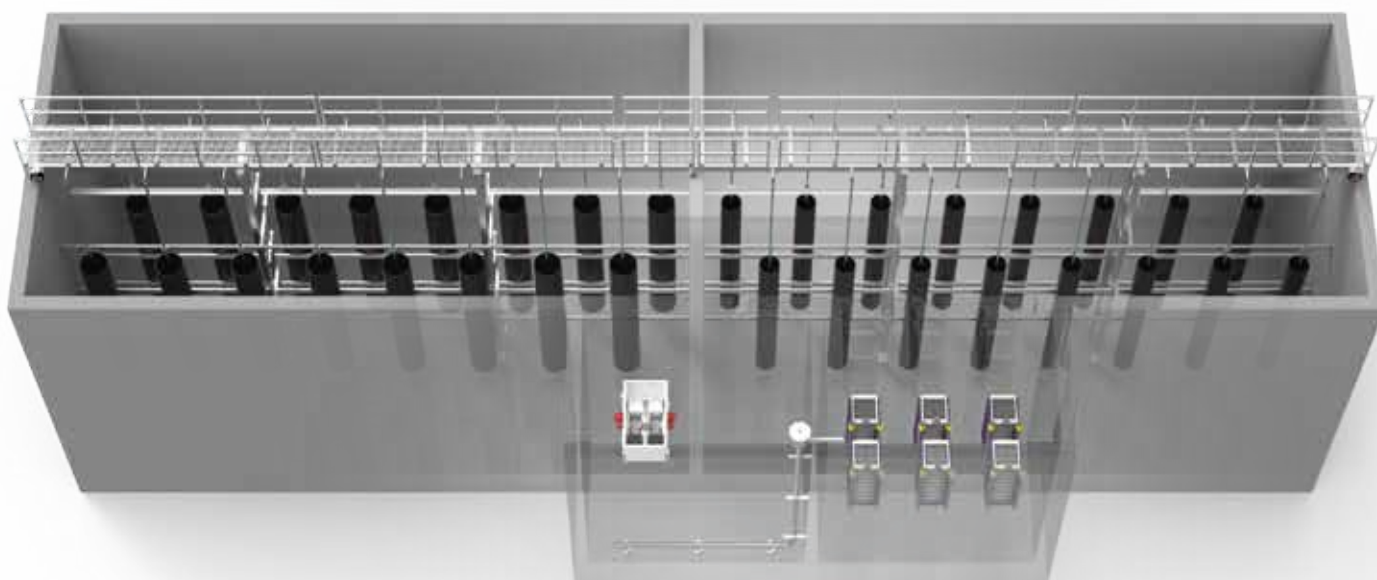
By thickening to 3%, solidBLOX also can reduce sludge hauling requirements, reducing both cost and pollution. An aerobic digester can now be operated at 3% solids, reducing the size of a conventional aerobic digester significantly. Plus, by using SiC to thicken solids, polymer addition is eliminated, saving plants a ton of money and hassle. Last, but certainly not least, solidBLOX helps make natural organic fertilizer which is good for all of us.





solidBLOX™

SiC SLUDGE THICKENING



VIDEO



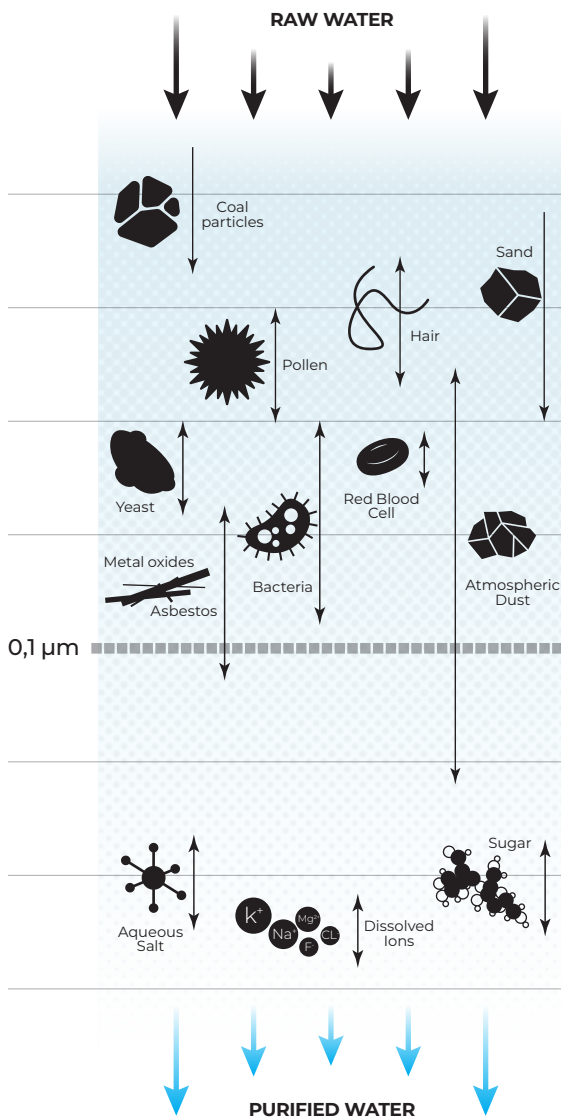
solidBLOX IS USED IN THE FOLLOWING MARKETS:

- Aerobic digestion plants
- WWTP with high hauling costs
- WWTP with tight TN and/or TP limit

BENEFITS OF solidBLOX ARE:

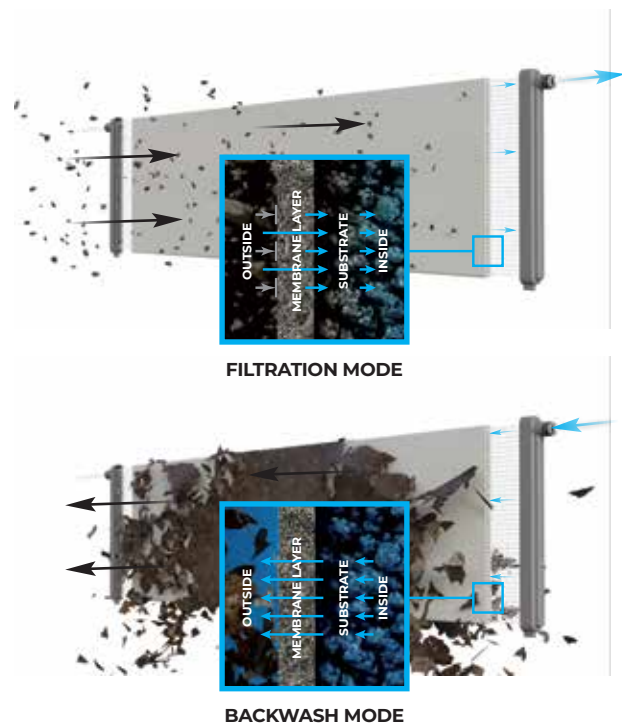
- Class B solids with a lower footprint and energy consumption
- Thickening to >3% solids without the use of polymers
- Lower sludge hauling costs
- Elimination of foul odors associated with conventional aerobic digestion
- Reuse quality effluent that compliments a BRN process

HOW DOES SiC OPERATE?



A slight vacuum is applied to the membrane to pull water through the 0.1 micron membrane pores. SiC is one of the few membrane materials that is naturally and permanently hydrophilic, meaning organic foulants, including oil, are repelled by the membrane while water is naturally drawn in. SiC is also chemical inert and extremely hard, meaning most anything can be used to clean it.

Solids, pathogens, and other contaminants are blocked by the membrane pores and are retained on the surface. Periodically, water is reversed back through the membranes to dislodge and remove solids that have accumulated on the surface. In some applications, air is bubbled up in between plates to provide a scouring action which further helps keep the membrane clean. Various types of spray washes can be employed to quickly and effectively remove solids from the membrane surface. While this regeneration procedure may sound quite normal for a membrane, SiC is far superior to all others.



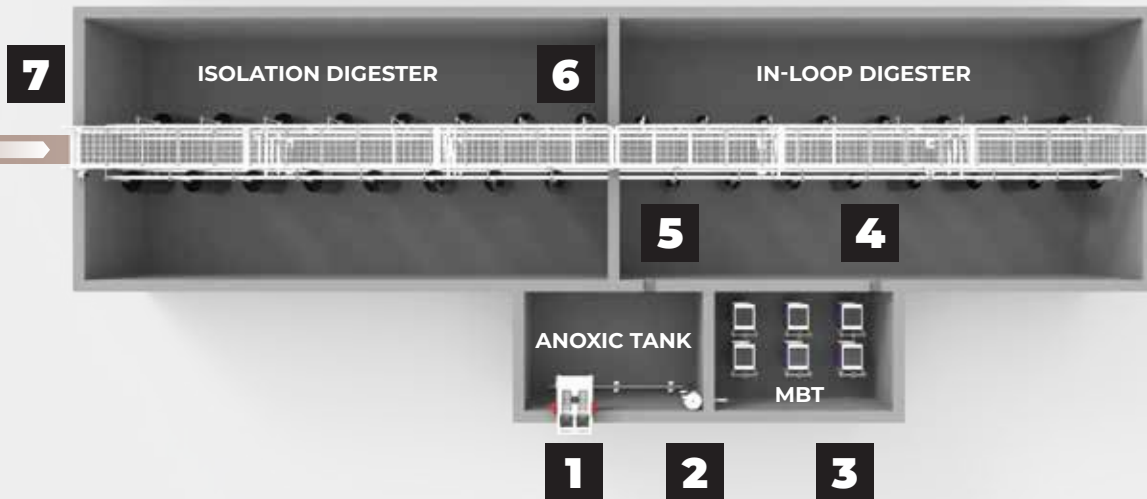
SiC is an ultrafiltration flat plate membrane used in water and wastewater applications. With a 0.1 µm pore size, SiC creates a physical barrier blocking solids, pathogens, heavy metals, and oil & grease.

HOW DOES IT WORK?

The solidBLOX™ system is a optimized, controlled, and well engineered aerobic digestion process that integrates membrane based sludge thickening system consisting of the following: Anoxic Basin, Membrane Thickening Basin, In-Loop Digester, and Isolation Digester. The system can be configured for the following :

- **GREENFIELD DESIGN**
- **INTEGRATION INTO EXISTING AEROBIC DIGESTERS**

The system also makes use of a non-clog, single drop diffuser system which is perfect for aerating and mixing thicker solids concentrations (>3%). The single drop diffuser system features an orifice that is not submerged in the liquid level and is accessible above the liquid level. This simplifies maintenance since going inside a tank, draining the tank, or taking it out or service is not required.

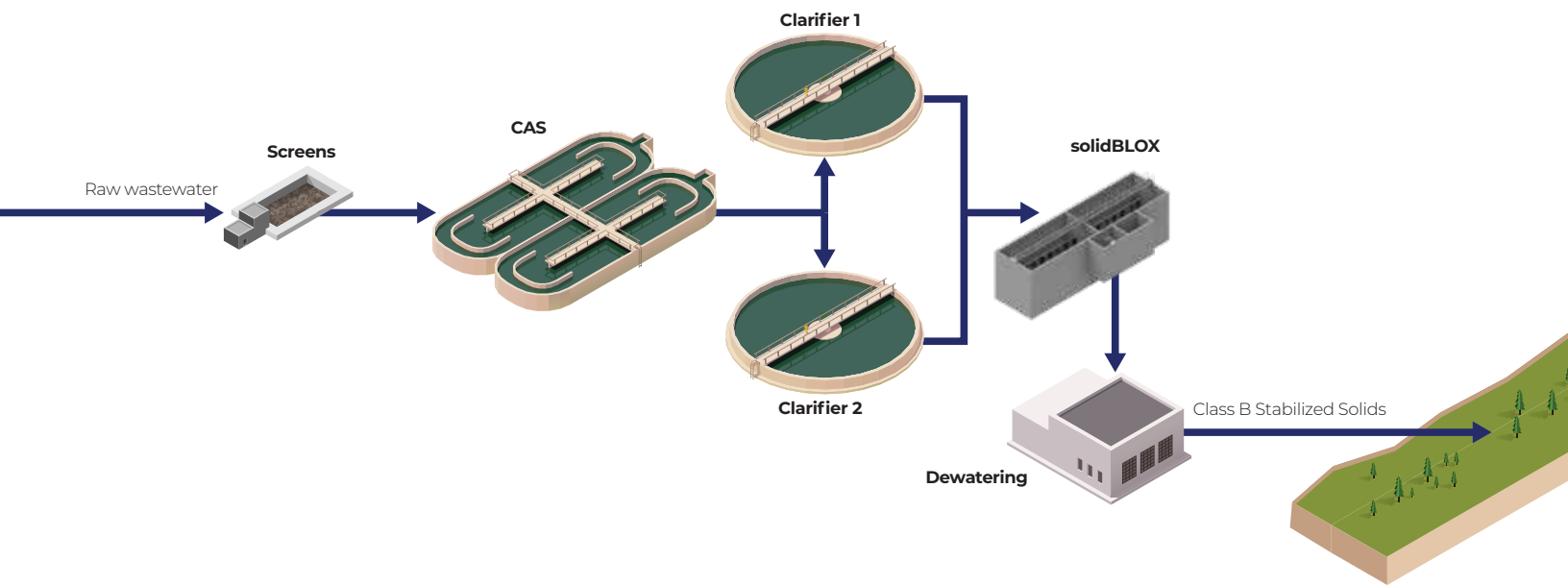


solidBLOX PROCESS

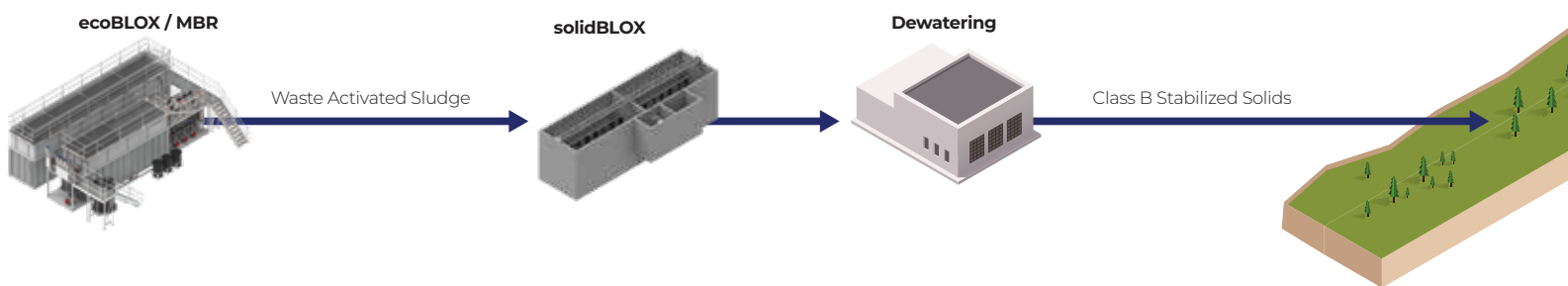
1. Waste Activated Sludge passes through the screens and enters the Anoxic Tank where it is mixed with a submersible mixer.
2. The sludge is transferred from Anoxic Tank to the MBT tank via an Airlift Pump.
3. The sludge is thickened up to 3% solids with the SiC membranes by continuously filtering water through the sludge.
4. The thickened solids remain in the MBT and as the tank level rises the addition of sludge to this tank creates a corresponding overflow into the In-Loop Digester where it is mixed and aerated to achieve VSR and nitrification.
5. The addition of sludge to the In-Loop Digester will create a corresponding overflow into the Anoxic Basin and completes the looping cycle between the Anoxic Tank, MBT, and In-Loop Digester. Nitrified sludge from the In-Loop Digester to the Anoxic Tank will cause Denitrification.
6. The addition of sludge to the In-Loop Digester will create another corresponding overflow into the Isolation Digester where the solids are mixed and aerated until stabilization requirements are met.
7. TSludge is transferred out for disposal.

SOLIDS MANAGEMENT INTEGRATION

SOLIDS MANAGEMENT FOR CAS



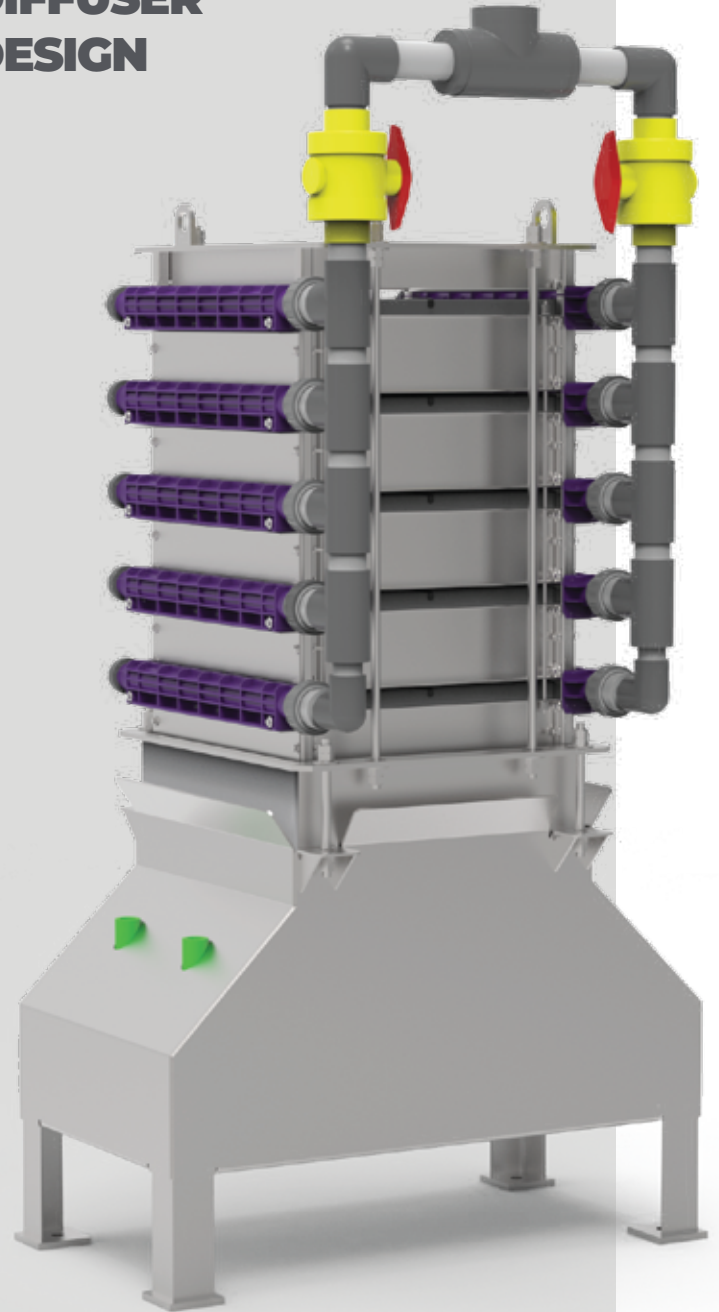
SOLIDS MANAGEMENT FOR MBR



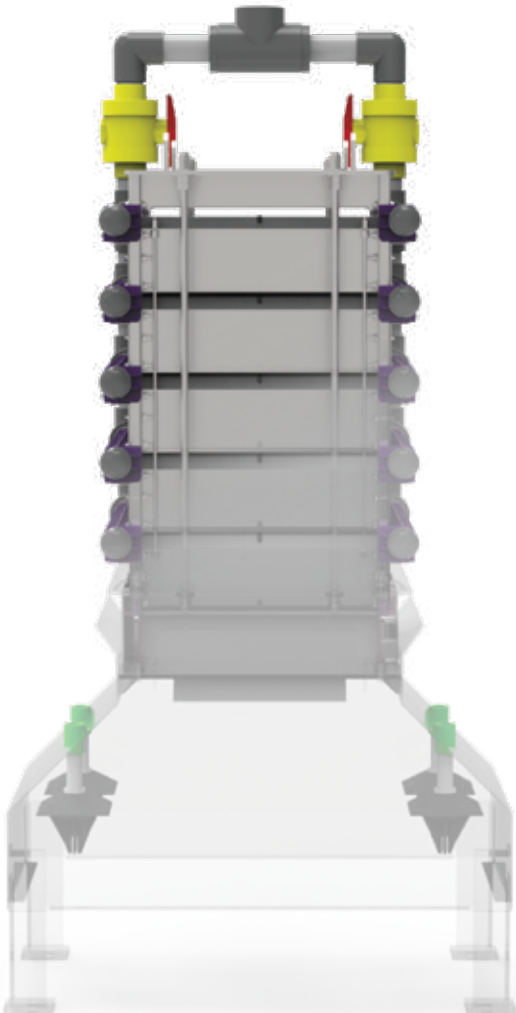
EX SERIES

EX Series Modules were developed specifically for very extreme and abusive applications, such as MBR and sludge thickening, due to the numerous mechanical stresses placed on the membranes. Unlike polymers, EX series modules can also be pressure washed to remove dewatering, ragging, or trash accumulation.

UNIQUE DIFFUSER CASE WITH NON-CLOG DIFFUSER DESIGN



EX SERIES FOR SLUDGE THICKENING



SUSTAINABILITY

A person wearing a bright orange raincoat is lying on their back in a dense forest of green ferns. Their arms are outstretched, and their eyes are closed, suggesting a state of relaxation or connection with nature. The scene is captured from a high angle, looking down at the person.

SUSTAINABILITY HAS NEVER BEEN MORE IMPORTANT AND MORE CRITICAL THAN IT IS NOW. UNTREATED SEWER DISCHARGES FROM STORM EVENTS IMPACTS BOTH HEALTH AND SAFETY AS WELL AS AQUATIC LIFE. TENS OF THOUSANDS OF ILLNESSES ARE REPORTED EACH YEAR DUE TO SEWER DISCHARGES. SHELLFISH BEDS ARE CLOSED UNTIL FECAL COLIFORM AND HEAVY METALS CLEAR THE TISSUE OF THE SHELL FISH. STORM DRIVEN SEWER DISCHARGES NEGATIVELY IMPACT BOTH THE ENVIRONMENT, HUMAN HEALTH & SAFETY, AND THE ECONOMY. IT SIMPLY IS NOT SUSTAINABLE.

MONITOR PLANT DATA ANYTIME, ANYWHERE FROM YOUR SMARTPHONE



OpsCTRL™ is an all-in-one solution for digitizing your plant. Combining asset management, maintenance management, alarm management and real-time data monitoring into one easy to use platform. Login to your account from your own device and keep your whole team connected in the office and in the field.

stormBLOX is equipped with opsCTRL, a digital tool for remote operation, monitoring and asset management to ensure unparalleled reliability, even during those 2 am downpours.

OpsCTRL is a single integrated system optimized for desktop, Apple & Android.





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