

NORWECO.
NORWALK WASTEWATER EQUIPMENT COMPANY

BIO-KINETIC®

WASTEWATER
MANAGEMENT
SYSTEM

BIO-KINETIC®



PROTECT WHAT'S MOST IMPORTANT TO YOU...

Choosing to live in a suburban or rural area without a municipal sewer no longer means having to live with the problems associated with septic tanks and filter beds. The Bio-Kinetic wastewater management system solves these problems for any application up to 2,000 gallons per day.

ADVANCED TREATMENT TECHNOLOGY FOR WASTEWATER DISPOSAL...

Conventional devices such as septic tanks, tile fields and sand filters are transformed into advanced treatment systems by the BK 2000. Filtration, settling, flow equalization, solids retention and chemical addition are proven technologies built into each management system.

HOW THE SYSTEM WORKS...

The BK 2000 manages the treatment of wastewater by keeping BOD* and solids within the treatment process. The settling and retention basin, the first of nine settling zones, retains BOD and suspended solids that would normally flow through conventional systems and plug filter beds. Solids remaining in the flow stream are trapped, as equalized flow passes through the multiple filtration, settling and treatment zones within the Bio-Kinetic tertiary device.

MAKES ANY SEPTIC SYSTEM, TILE FIELD OR FILTER BED WORK BETTER AND LAST LONGER...

Increasing the efficiency of septic tanks, tile fields and other treatment systems, the BK 2000 permanently reduces loading to downstream processes. This reduction in loading multiplies the effectiveness of any treatment system and maximizes its useful life. The BK 2000 is installed in front of tile fields, sand filters, mounds, irrigation systems, constructed wetlands or any process that is biologically sensitive, hydraulically sensitive or difficult to replace.

SOLVES A BROAD RANGE OF WASTEWATER TREATMENT AND DISPOSAL PROBLEMS...

Without a way to manage operational problems, conventional treatment systems are prone to failure. Wastewater treatment is complex and requires managing conditions such as marginal soils, high water tables, bedrock, seasonal heavy rain and hydraulic or organic overloads. Only the BK 2000 combines filtration, BOD removal, solids retention, flow equalization, optional chemical addition and simplified maintenance to provide the solution for trouble free, long-term performance.

OPERATIONAL PROTECTION AND RELIABILITY THAT INSURE A SAFE, SANITARY HOME ENVIRONMENT...

When a Bio-Kinetic wastewater management system is installed, no one has to worry about the performance of the septic tank or disposal system. The simple solution for complex problems, it is the clear choice for properly managing wastewater treatment and disposal.



With this unique combination of advanced treatment technologies and ease of installation and maintenance, the Bio-Kinetic wastewater management system protects your home, your family and the environment.

FEATURES AND ADVANTAGES

Homeowner or User

- No electricity required and no moving parts
- Easily serviced and maintained
- Eliminates costly system replacement
- Enhances property value

Engineer or Designer

- Economical upgrade to advanced treatment
- State-of-the-art wastewater management
- Extends operating life of any treatment system
- Parallel systems expand capacity above 2,000 GPD

Professional Contractor

- Economical to install
- Simplified installation eliminates errors and delays
- Readily adaptable to any site condition

Health Officials and Community

- Eliminates nuisances and public health hazards
- Prevents expensive failures in marginal soils
- Protects disposal systems, filter beds and mounds

ADVANCED WASTEWATER

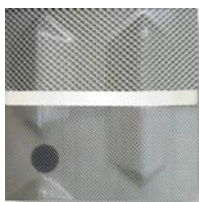
1. Heavy Duty Access Cover



The access cover securely interlocks with the top rib of the settling and retention basin. The cover is available in either black or green to

blend nicely into any landscape.

2. Design Flow and Peak Flow Filter Media



Molded filter media holds BOD and solids within the settling and retention basin. The design and peak flow filters are easily cleaned

and function for the life of the system.

3. Baffled Perimeter Settling Zone



Positioned immediately downstream of the molded filter media, the baffled perimeter settling zone is the second of nine

settling zones within the BK 2000.

4. Flow Deck with Adjustable Outlet Weir



The flow deck is downstream of the six flow ports. Liquids entering as well as exiting the Bio-Kinetic tertiary treatment device are held,

controlled and directed by the flow deck.

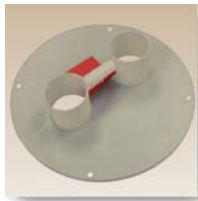
5. Compartmented Settling Zone



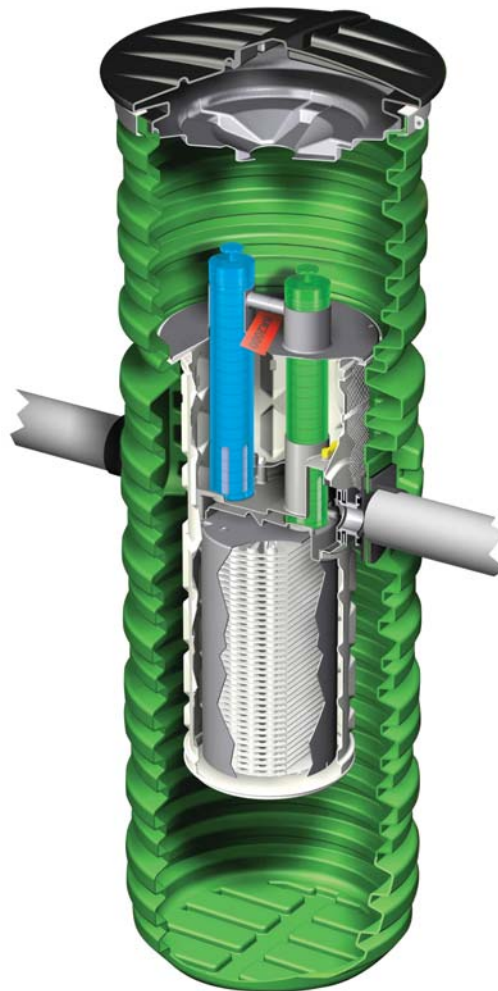
Containing 42 chamber plates and 329 feet of kinetic filtration, this settling zone establishes a multidirectional plug flow path

through the Bio-Kinetic device.

6. Removable Moisture/Vapor Shield



A shield prevents condensation from entering the Bio-Kinetic device. Built-in collars secure the optional chemical feed tubes.



U.S. and Foreign Patents
Granted and Pending

7. Settling and Retention Basin

The settling and retention basin is constructed of corrosion resistant polyethylene. Riser and ring sections may be added to increase liquid and solids storage capacity.



8. Safety/Service Guard



Located beneath the access cover, the safety/service guard prevents accidental entry into the basin and is used during routine service of the wastewater management system.

9. Quick Disconnect with Anti-Shear Inlet and Outlet



Hubs on the inlet and outlet provide a 4" socket for Schedule 40 PVC pipe. A watertight connection and simple installation and removal are assured by a quick disconnect coupling.

10. Lockable Compression Clamp



Access covers, risers and ring sections are each locked in position by a molded compression clamp. The clamp is secured by a stainless steel fastener or optional padlock.

11. Gasketed Rings and Extension Risers



Rings and risers are available for installation where additional basin capacity or depth is needed. Risers are available from 6" to 72" in height as required, for deeper installations.

12. NSF Certified Chlorine Dispenser



Listed under NSF/ANSI Std. 46, Section 11 when used with Blue Crystal tablets. Bio-Neutralizer tablets can be easily added to dechlorinate the wastewater flow.

MANAGEMENT SYSTEM

PATENTED BIO-KINETIC® DEVICE DELIVERS UNMATCHED FILTRATION CAPABILITY...

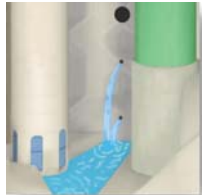
The Bio-Kinetic device contains three filtration zones, eight settling zones, 42 baffled chamber plates and 329 lineal feet of kinetic filtration. These features dramatically reduce loading on downstream treatment and disposal systems.

MULTIPLE INDEPENDENT SETTLING ZONES MAXIMIZE SOLIDS REMOVAL...

The settling zones within the Bio-Kinetic device work in conjunction with filtration and equalization to effectively retain BOD and solids removed from the flow stream.

FLOW EQUALIZATION PLAYS A VITAL ROLE IN WASTEWATER TREATMENT AND DISPOSAL...

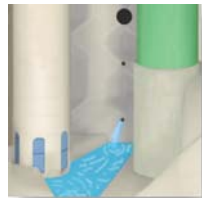
Heavy usage periods and hydraulic surges caused by clothes washers, dishwashers, water softeners, garbage disposals, baths and hot tubs are managed by six individual flow equalization ports that utilize upstream tank capacity. Two design flow ports are located at the normal liquid level of the treatment process.



**SUSTAINED
FLOW**

The design flow ports manage daily flow variations and control flow through all upstream and downstream treatment processes. Longer hydraulic surges will cause the liquid level to rise to a pair of sustained flow ports.

Flow through the Bio-Kinetic device increases while flow equalization is maintained. Two peak flow ports manage flow during prolonged surges. With a Bio-Kinetic device in place, any treatment system will function effectively, even during periods of peak hydraulic or organic loading.



DESIGN FLOW



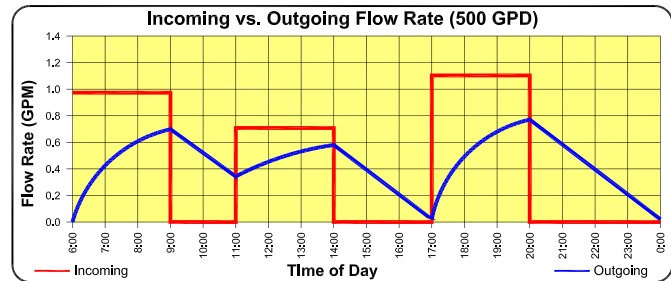
PEAK FLOW

SELF-CONTAINED TABLET FEED SYSTEM DISPENSES POTENT CHEMICAL DOSE...

Chemical treatment relies on a proper dose for maximum efficiency. The Bio-Kinetic chemical feed system insures an effective chemical application for disinfection, dechlorination, and other advanced treatment requirements.

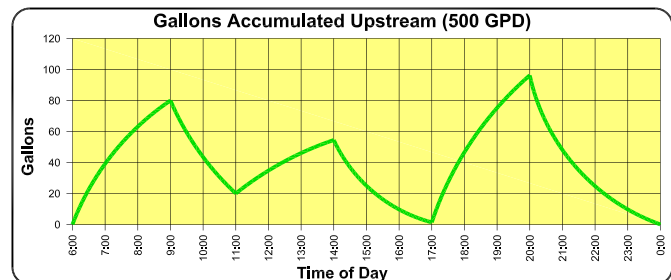
AUTOMATICALLY DOUBLES SYSTEM PERFORMANCE AND OPERATIONAL LIFE...

The BK 2000 doubles treatment effectiveness by eliminating solids washout and hydraulic overloads, creating an efficient treatment system that will function properly for decades.



UNIQUE DESIGN UTILIZES RESERVE CAPACITY IN ANY NEW OR EXISTING SYSTEM...

The design of the BK 2000 allows any conventional wastewater treatment system to fully utilize upstream tank capacity to store and treat accumulated wastewater.

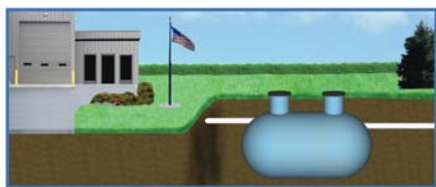
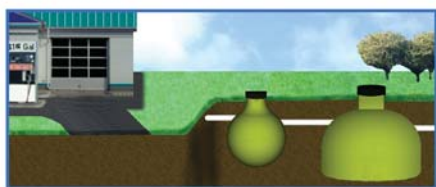
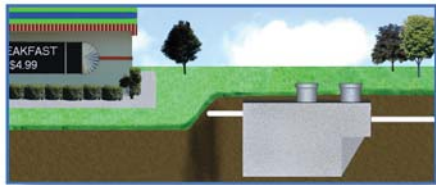


REDUCES HYDRAULIC AND SOLIDS LOADING RATES BY MORE THAN 50%...

With flow equalization, the hydraulic flow to the system is not the flow through the system. As illustrated below, the Bio-Kinetic wastewater management system equalizes flows up to 2,000 gallons per day by more than 50%.

INPUT			
Average Daily Flow	Minutes of Incoming Flow	Avg. Incoming Flow Rate	Upstream Surface Area
500 GPD	540	0.926 GPM	50 sq. ft.
1000 GPD	540	1.852 GPM	60 sq. ft.
1500 GPD	540	2.778 GPM	70 sq. ft.
2000 GPD	540	3.704 GPM	80 sq. ft.
OUTPUT			
Average Daily Flow	Minutes of Outgoing Flow	Avg. Outgoing Flow Rate	Flow Equalization
500 GPD	1094	0.457 GPM	50.6%
1000 GPD	1229	0.814 GPM	56.0%
1500 GPD	1295	1.158 GPM	58.3%
2000 GPD	1362	1.468 GPM	60.3%

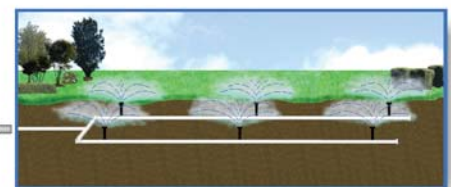
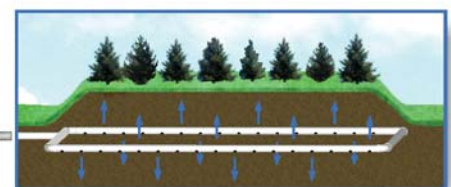
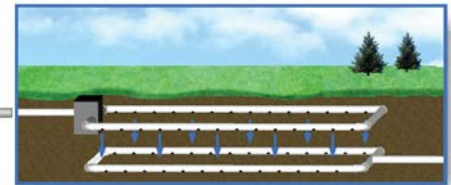
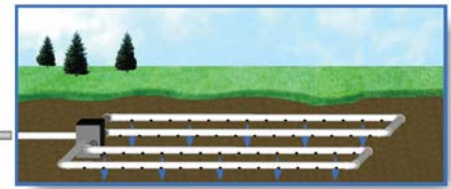
MODEL BK 2000



Serves a wide variety of wastewater applications



with unlimited design and installation flexibility



INSTALLS IN HOURS, PROVIDES BENEFITS FOR A LIFETIME...

The Bio-Kinetic wastewater management system can be easily installed as part of any wastewater treatment system. An area large enough to accommodate the retention basin and connecting piping is the only excavation required. The compact, easily transported basin is equipped with built-in connections for inlet and outlet piping, allowing installation to be completed in just a few hours. Extensive excavation work and revisions to existing landscaping are not required. There are no complex piping connections or electrical hookups. The BK 2000 and its advanced treatment features begin working immediately. The non-corrosive settling and retention basin and Bio-Kinetic tertiary device will deliver a lifetime of service and protection.



QUICK AND EASY MAINTENANCE PROTECTS YOUR INVESTMENT AND THE ENVIRONMENT...

Unlike conventional disposal systems that are not easily accessible, the BK 2000 is maintained from grade. A tank pumping truck, backhoe and confined space entry equipment are not required for routine inspections. Ground level access keeps service time to a minimum. The lockable cover prevents unauthorized access and the safety/service guard prevents accidental entry. Typical inspection patterns may vary, but normal frequency is at least once per year. Inspections may be incorporated into a pre-arranged service contract that includes maintenance as needed, available through your local dealer, distributor or their authorized agent.

AT YOUR SERVICE – CUSTOMER SUPPORT AND PROTECTION...

Wastewater management is a critical part of the development of suburban real estate. Treatment system failures cause problems that are expensive to repair. With so much at stake, quality, reliability and customer service must be an important part of any decision regarding the type of treatment and disposal system used. The BK 2000 is a quality product backed by a local expert, manufactured, sold, installed and serviced with pride. The Bio-Kinetic wastewater management system is an advanced approach to wastewater treatment and a guardian of property value, public health and the environment.



TODAY'S ANSWER FOR THE PROTECTION OF TOMORROW'S ENVIRONMENT

TEN YEAR LIMITED WARRANTY

The Bio-Kinetic wastewater management system is warranted against defects in material and workmanship under normal use and service for a period of ten years. The limited warranty provides comprehensive, single source protection and covers all components of the BK 2000, including retention basin, ring sections, safety/service guard, access cover, system mounting casting, extension risers and Bio-Kinetic tertiary device. Complete warranty information, a warranty registration card and Owner's Manual are included with the purchase of each BK 2000. Detailed instructional materials and a ten year limited warranty provide Bio-Kinetic wastewater management system owners years of trouble-free operation and service.



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