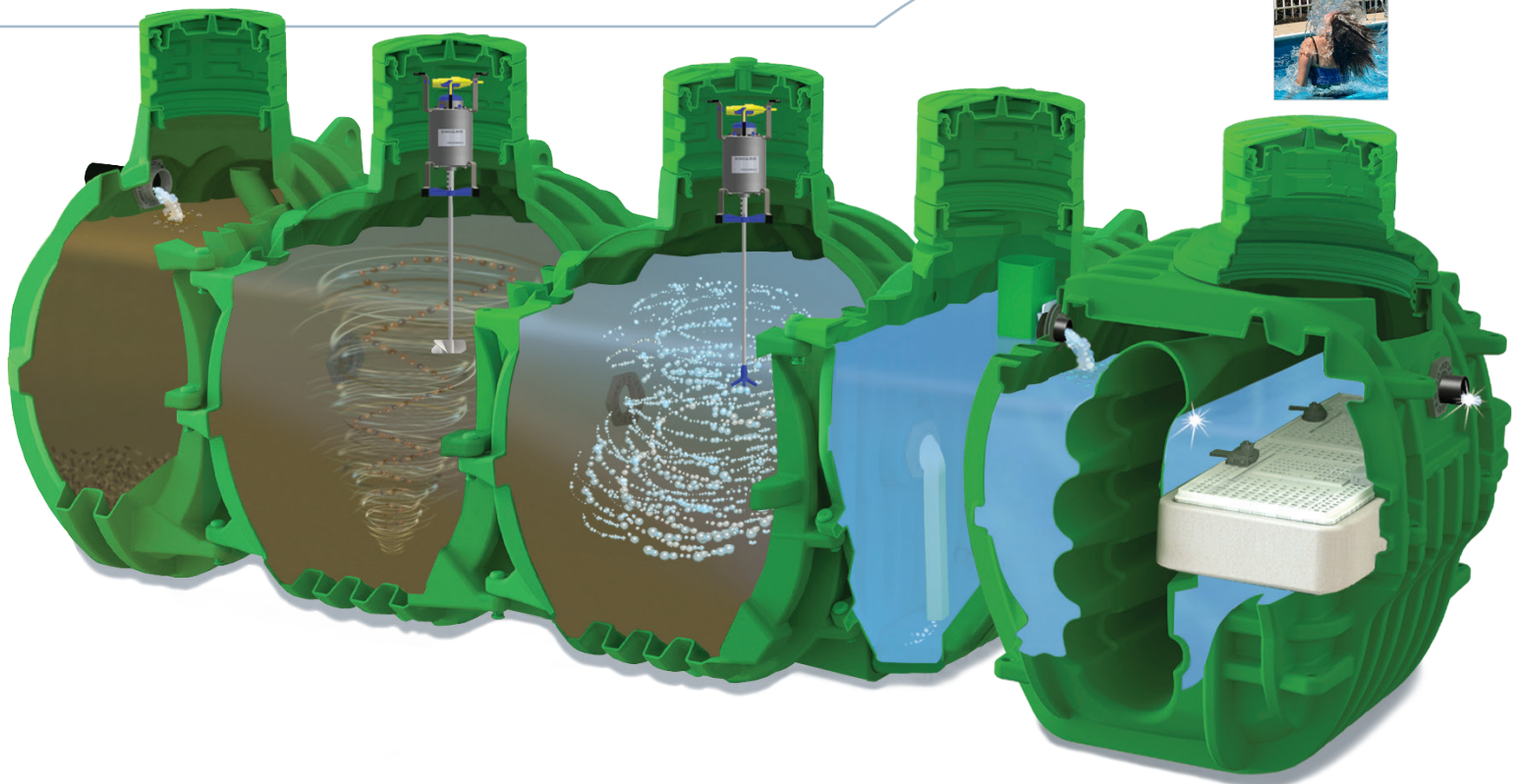
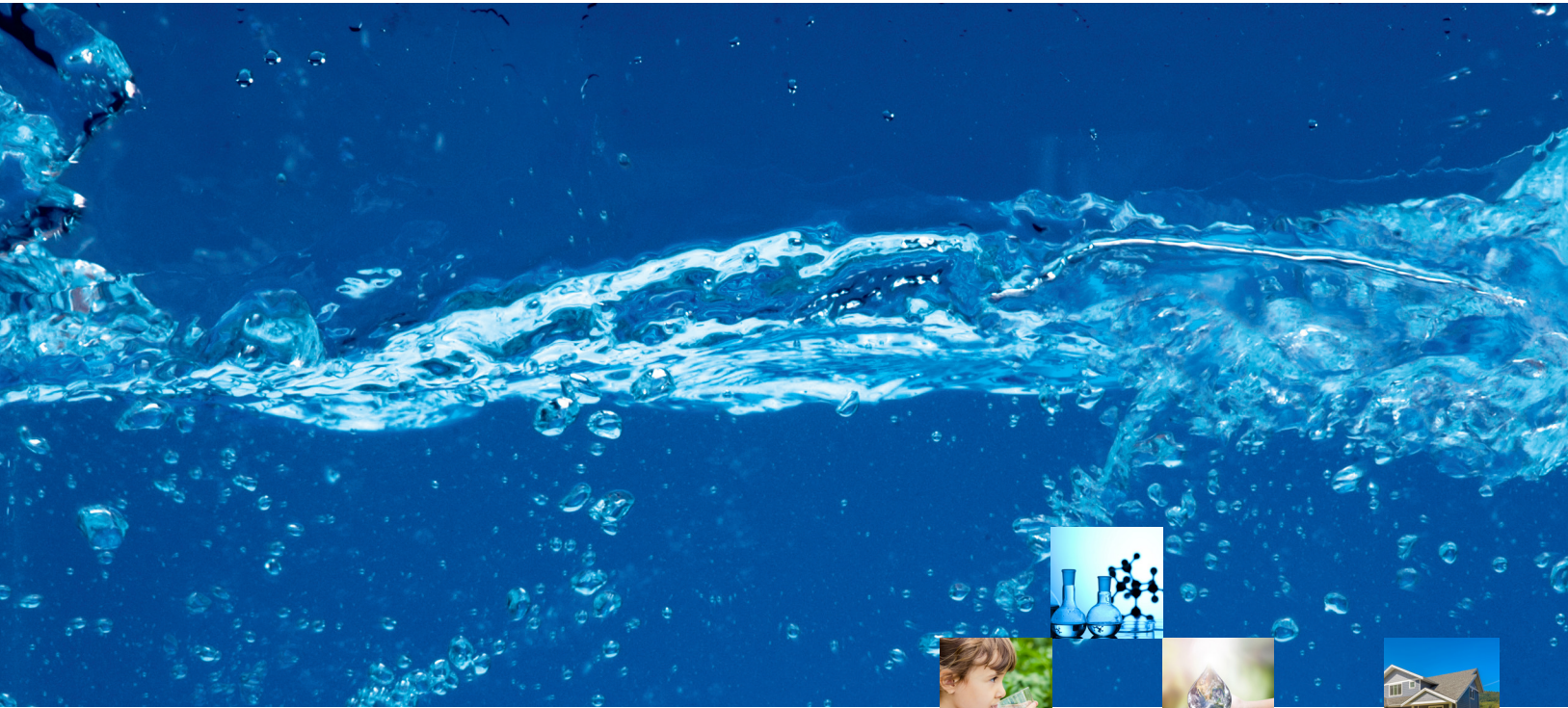


SINGULAIR HK™ GREEN



norweco®

Engineering the future of water
and wastewater treatment

SINGULAIR HKTM GREEN

Cutting edge **technology** focused on
unprecedented product **quality** and
extraordinary effluent results to protect
our environment and **water** resources

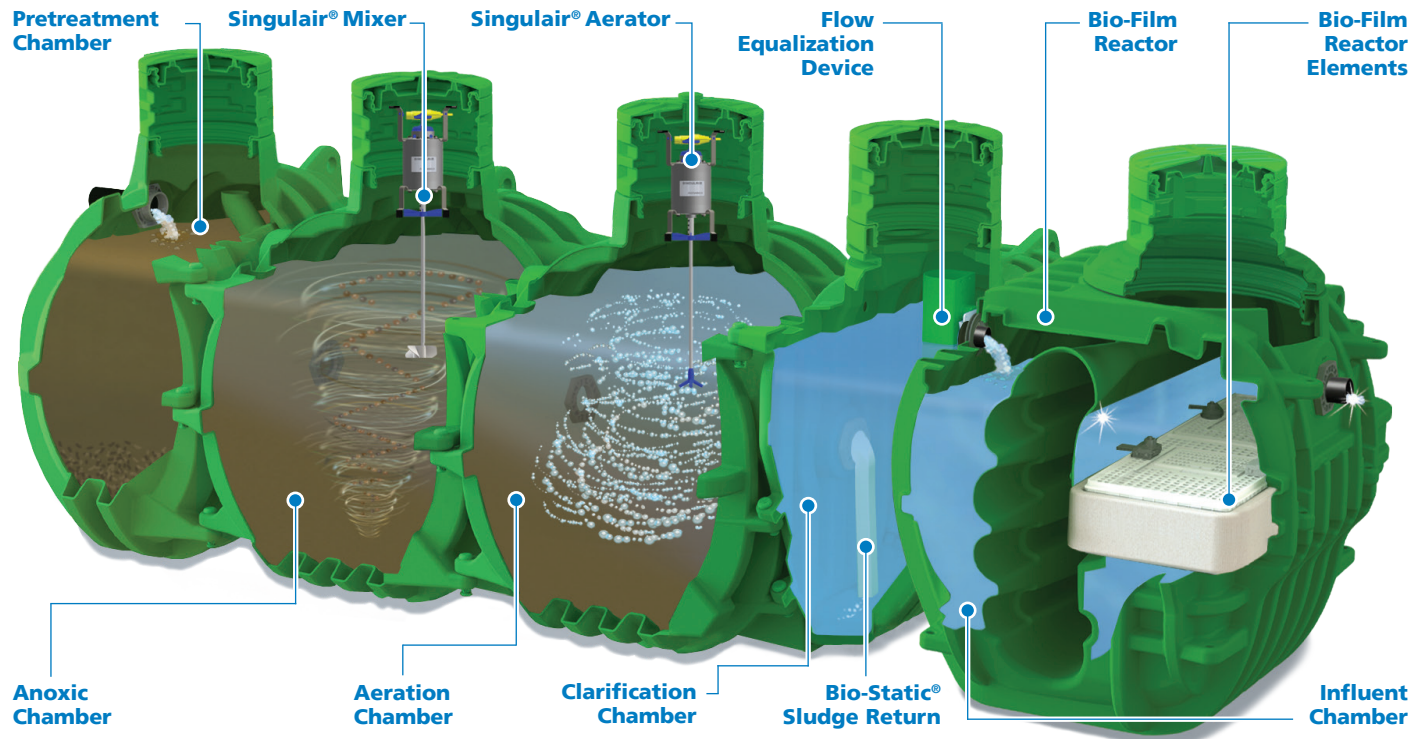
During its successful completion of both NSF/ANSI Standard 40 and 245 tests, the Singulair HK Green system:

- Achieved certified effluent results of 3.0 mg/L CBOD (Carbonaceous Biochemical Oxygen Demand), 4.4 mg/L TSS (Total Suspended Solids) and 7.2 mg/L TN (Total Nitrogen) for the first 6 month evaluation. This is a TN reduction of 84%!
- Became the only residential wastewater treatment system to pass three consecutive tests without performing routine maintenance for a full 18 months, producing exceptional certified effluent results of 4.0 mg/L CBOD, 6.8 mg/L TSS and 11.5 mg/L TN, a TN reduction of 74%.

The Singulair HK Green wastewater treatment system is specified in areas that require significant and consistent reduction of Total Nitrogen. This hybrid system combines both suspended and attached growth biological processes to produce superior effluent results with no service requirements for 18 months. This first of its kind treatment system efficiently and automatically pretreats, aerates, denitrifies, flow equalizes and filters all influent to return the cleanest, highest quality effluent to the environment.

solutions in wastewater treatment

Featuring best-in-class Nitrogen removal performance



Pretreatment Chamber

Anaerobic bacteria and gravity precondition the wastewater here to protect the integrity of downstream treatment processes.

Anoxic Chamber

In this chamber, Pretreatment Chamber effluent is mixed with nitrified liquid recirculated from the Aeration Chamber, via the Singulair Mixer. Under carefully controlled conditions, bacteria remove nitrogen by consuming nitrate-bound oxygen during their respiratory process.

Singulair Mixer

The Singulair Mixer is a precision engineered electro-mechanical device that has been specifically designed to enhance nitrogen removal. The submerged mixing tip mounted on a stainless steel shaft thoroughly mixes the Anoxic Chamber contents, maintaining optimal conditions for denitrification.

Aeration Chamber

Here, safe, living aerobic bacteria convert the wastewater into stable substances. Flow equalization maximizes this biological oxidation and assures proper retention and treatment.

Singulair Aerator

Powered by our 1725 RPM, 115 volt, fractional horsepower motor, the quiet, reliable aerator is economical to operate, reduces heat build up and dramatically increases bearing life. Each aerator is tested and certified to operate only 30-minutes per hour.

Clarification Chamber

Flow equalization enhances the settling of biologically active substances inside the Clarification Chamber. Pretreated, aerated wastewater has now been converted to clarified liquids for discharge from this chamber.

Flow Equalization Device

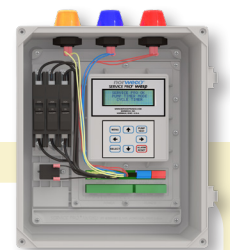
Controls flow through the treatment process and regulates the velocity of treated effluent that can leave the system, enhancing the efficiency of the attached growth filtration media in the Singulair HK Green system.

Bio-Film Reactor

Flow equalized liquid from the clarifier enters the Bio-Film Reactor where it flows downward and is evenly distributed beneath our patented Reactor Elements. The liquid then travels through the proprietary attached growth filtration media where the final treatment takes place.

Polyethylene Tank

Every tank is manufactured from rotationally molded, UV stabilized high density polyethylene, plus strategically located ribs, resulting in uncompromised tank integrity. Installation is quick and easy, with long term performance assured.



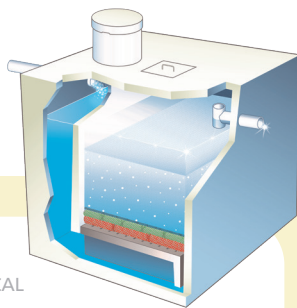
SERVICE PRO® WASP®

EVERY SYSTEM COMES WITH THE SERVICE PRO WASP CONTROL CENTER THAT USES MCD TECHNOLOGY TO PROVIDE MONITORING, COMPLIANCE AND DIAGNOSTIC FUNCTIONS. EACH CONTROL CENTER INCLUDES A PROGRAMMABLE LCD SCREEN, AUDIBLE ALARM, RESET BUTTON, THREE CIRCUIT BREAKERS, MIXER ALARM, AERATOR ALARM, AUXILIARY INPUT ALARM, THREE AUXILIARY COMPONENT INPUTS AND OPTIONAL TELEMTRY.

Norweco's legacy represents a longstanding tradition of trust. Our innovative treatment systems and products provide the complete solution for engineers, designers, installers and regulatory officials.

Consider the facts:

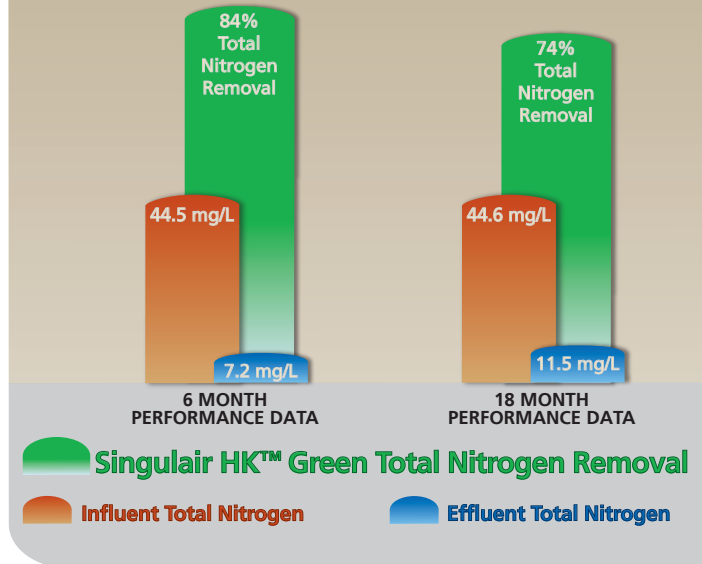
- In ecologically sensitive areas, the most stringent effluent standards are 10 mg/L CBOD, 10 mg/L TSS and 10 mg/L TN. The Singulair HK Green system meets or exceeds these rigid regulatory standards and is performance certified and listed to NSF/ANSI Standards 40 and 245. The system achieved astounding certified effluent results of 3.0 mg/L CBOD, 4.4 mg/L TSS and 7.2 mg/L TN, an 84% reduction of TN.
- After operating 18 months without service, the certified effluent results were 4.0 mg/L CBOD, 6.8 mg/L TSS and 11.5 mg/L TN, a 74% reduction of TN. The Singulair HK Green is the only system to achieve these unmatched results.
- The system provides reliable, consistent performance for a full 18 months without service. Designed to be easily maintained, the Singulair HK Green system requires no expensive replacement media that can be harmful to the environment. All components can be accessed from grade, simplifying service.
- Contained in a rugged, heavy duty, UV protected polyethylene tank, the Singulair HK Green treatment system weighs less than 1,275 pounds and can easily be installed with a backhoe.
- We have engineered the Singulair Mixer to maximize operational efficiency and enhance system performance. The mixer operates on



Phos-4-Fade® Filter

THIS PATENTED, NON-MECHANICAL COMPONENT CAN BE EASILY INSTALLED AS PART OF ANY ONSITE WASTEWATER TREATMENT SYSTEM TO PROTECT WATER RESOURCES FROM HARMFUL ALGAL BLOOMS BY REMOVING PHOSPHORUS FROM WASTEWATER STREAMS. THE PHOS-4-FADE FILTER WAS TESTED AND CERTIFIED BY THE BUREAU DE NORMALIZATION DU QUEBEC (BNQ) THROUGH THEIR STRINGENT 12 MONTH CERTIFICATION PROTOCOL.

Unmatched Nitrogen Removal

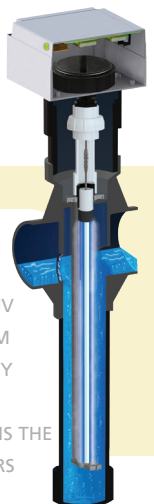


a precision run cycle designed to reduce Total Nitrogen. Eliminating the need for a recirculation pump and additional system plumbing, the Singulair Mixer simplifies installation, operation and maintenance.

- 70-hour retention in the Singulair HK Green system insures adequate exposure to all treatment processes and reduces pumping frequency as compared to smaller capacity systems.
- Our patented non-mechanical flow equalization device guarantees that all incoming wastewater is fully treated, regardless of heavy use periods.
- All flow is equalized an average of 50% at the NSF Standard 40/245 600 GPD (gallons per day) design loading pattern.
- Your local, factory-trained, certified and licensed Norweco dealer sells, installs and services your system with pride. You'll find their name and address posted on the system's control center.

AT 1500 Ultraviolet Disinfection System

CAPABLE OF MEETING EVEN THE MOST STRINGENT ENVIRONMENTAL REQUIREMENTS, THE MODEL AT 1500 UV DISINFECTION SYSTEM REDUCES BACTERIA LEVELS FROM SECONDARY EFFLUENT TO MEET STRICT WATER QUALITY STANDARDS. THE DUAL-PASS DESIGN ASSURES THE INTEGRITY OF THE TREATMENT PROCESS. THE AT 1500 IS THE ONLY UV TREATMENT SYSTEM LISTED BY UNDERWRITERS LABORATORIES FOR RESIDENTIAL APPLICATIONS.





Norweco dealers are located throughout North America and much of the rest of the world. Research, product development, manufacturing, marketing and sales support are conducted inside our offices and factory in Norwalk, Ohio USA. Everyone at Norweco is committed to shaping the future of our industry.

engineering

the future

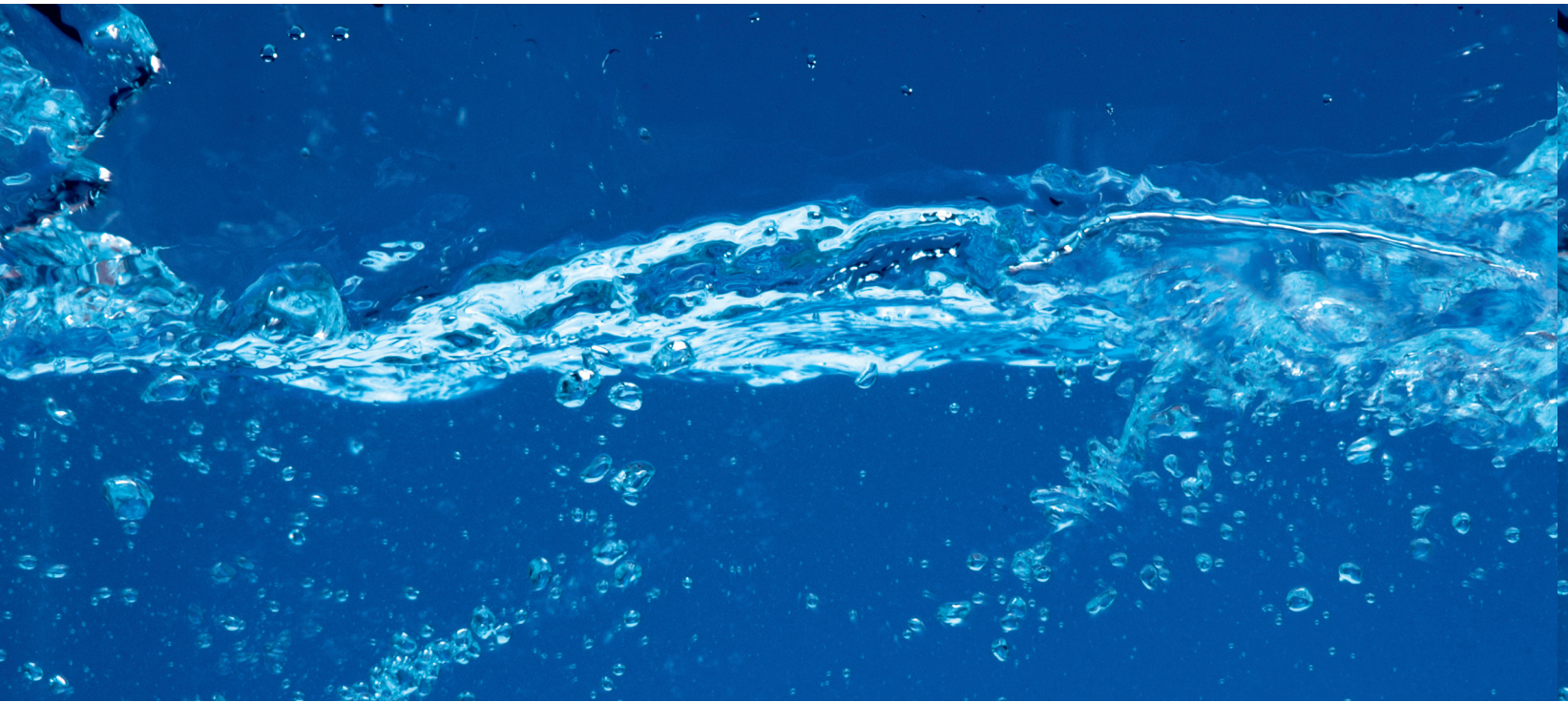
of water and wastewater treatment

Specify Singulair HK™ Green

As a designer, choosing to incorporate the Singulair HK Green system in your project will insure that you achieve successful treatment while offering outstanding quality and reliability. At the same time, the reputation of your company will be protected for years to come. Your local Norweco dealer is fully trained to assist you in the design, installation and operation of a Norweco Singulair HK Green system.

As a homeowner, getting the highest quality product is essential. The Singulair HK Green system arrives to the jobsite complete, including delivery, tank setting, equipment installation and plant start-up. A service contract is recommended so that your system continues to perform at the highest level to protect you and your investment. Service contracts are available from your local Norweco dealer.

Today's Answer for the Protection of Tomorrow's Environment



comprehensive protection, guaranteed



The Singulair HK Green is warranted against defects in material and workmanship under normal use and service by a comprehensive Lifetime Warranty and Exchange Program. The 3 year Limited Warranty and Lifetime Exchange covers the Singulair aerator, Singulair mixer and Service Pro control center. All other system components

are warranted by our 2 year Limited Warranty. Complete Warranty and Exchange information, a Warranty Registration Card and Owner's Manual are included with purchase.

Other Products

Singulair® Wastewater Treatment Plants

FOR RESIDENTIAL APPLICATIONS

Modulair® Wastewater Treatment Plants

FOR SEMI-COMMERCIAL APPLICATIONS

Travalair® Wastewater Treatment Plants

FEATURING AUTO SLUDGE AND SKIMMER SYSTEM

norweco®

Engineering the future of water
and wastewater treatment

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Norwalk, Ohio, U.S.A. 44857

PH: 419.668.4471

FAX: 419.663.5440

www.norweco.com

The Singulair HK Green System components are listed, licensed, and/or certified by each of the following agencies/organizations.



Progress Through Service Since 1906

We engineer, manufacture, install, and maintain advanced water and wastewater treatment technologies for residential properties, communities, and commercial properties that are not connected to sewer lines. Norweco treatment systems are in service all over the world.

Norweco®, Norweco.com®, Singulair®, Modulair®, Travalair®, Singulair R3®, Singulair Green®, Ribbit Rivet®, Hydro-Kinetic®, Hydro-Kinetic Bio-Film Reactor®, Evenair®, Lift-Rail®, Microsonic®, Bio-Dynamic®, Bio-Sanitizer®, Bio-Neutralizer®, Bio-Kinetic®, Bio-Static®, Bio-Gem®, Bio-Max®, Bio-Perc®, Blue Crystal®, Phos-4-Fade®, Enviro-C®, Nitro-Buster®, ClearCheck®, ChemCheck®, Tri-Max®, Hydra-Max®, Service Pro®, MCD®, TNT®, WASP®, Grease Buster® and "BUSTER" logo are all registered trademarks of Norwalk Wastewater Equipment Company, Inc.