

Environmental Products

Pump Systems

Effluent Filters

Distribution Components

Accessories & Controls



Trusted. Tested. Tough.®



Zoeller® Pump Company Environmental Products Overview

At Zoeller® Pump Company our objective is to meet the growing demand for solutions, products, and services in the fields of environmental protection and wastewater treatment. We seek to provide our customers with environmentally friendly solutions by offering high quality products and proven technology. When it comes to wastewater treatment systems and products, Zoeller® Pump Company has the solutions for you.

Durability in Design

Zoeller® Pump Company offers sustainable environmental products, solutions, and services for the collection, treatment, and dispersal of residential and community wastewater. With expertise in pumps, pressure sewers, biological and mechanical treatment processes, disinfection, and soils, Zoeller® offers the experience to design, implement, and configure a wide range of projects.

When thinking about water treatment, it all comes down to one word—trust. You need to be able to inherently trust that the treated water you receive is appropriate for its intended use. Zoeller® understands the crucial nature of this trust and never takes it for granted.

Wide breadth of Product Line

From simple needs such as effluent filtration to complex solutions for complete, onsite wastewater management, Zoeller® has the appropriate tools and the real-world understanding to meet and exceed our customers' needs.

While Zoeller® has strong roots in product manufacturing, we are capable of providing much more than a mere list of components. The Zoeller® team brings to the table not only quality products, but also an impressive array of technical knowledge, practical experience, and time-savers like drawings and specifications. Zoeller® does not subscribe to the "one size fits all" mentality. Each project bears unique circumstances that no single cookie-cutter answer can meet.

Let Zoeller® Pump Company's Environmental Products assist you with the perfect solution to your onsite project.

Pump Systems

TURBINE EFFLUENT PUMPS

APPLICATION:

STEP applications Effluent sewer force mains Treatment systems Drip field dosing

FEATURES:

- 1/2 HP up to 5 HP
- 115 and 230 Volt, 1 Ph
- Inlet screens
- Submersible motors pass 3/32" spherical solids. F&W through 2 HP, Franklin Electric 3 & 5 HP
- Corrosion-resistant stainless steel motor, pump casings, and hex drive pump shaft
- · High-efficiency floating stack impeller design
- 10' of jacketed SO or SJO type power cord (1/2 HP 1-1/2 HP)
- Additional cord lengths of 25', 50' and 100' also available
- Consult factory for design points not covered by the performance listed = best efficiency points indicated per model
- 1-year warranty from date of purchase
- · 5-year warranties also available

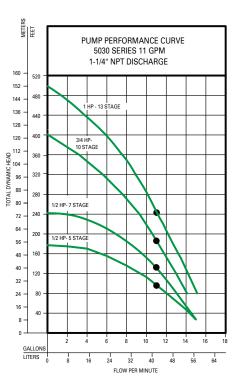


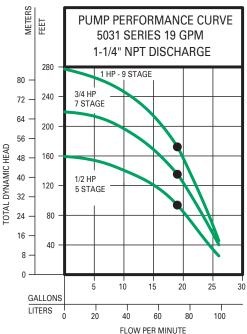
11, 19, 27 GPM Models

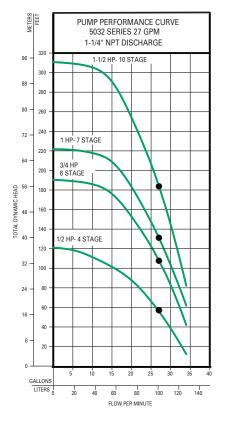
35, 55, 85 GPM Models

ACCESSORIES:

Check valves 1-1/4" (p/n 30-0187) 2" (p/n 30-0189)

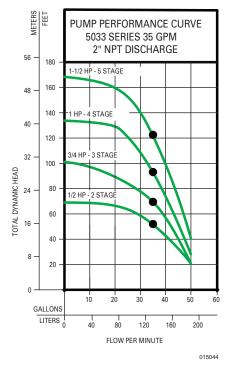


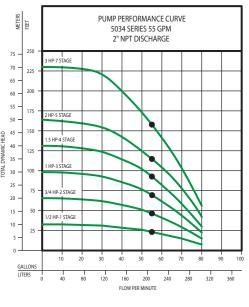




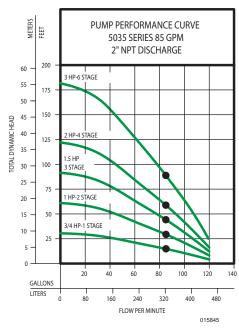
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Pump Systems





015649



TURBINE STEP SYSTEM

APPLICATION:

Onsite enhanced/pumped septic systems, or repairs to failed septic systems where gravity flow is not an option, sand filters, pressure pipe dosing systems or other alternatives that require high head.

FLOW RATE:

Systems up to 85 GPM available

FEATURES:

- Tank made from durable polyethylene
- Stainless steel/plastic turbine effluent pump
- Heights from 51" to 120" available
- · Simplex and duplex systems
- · All vaults fit in an 18" tank opening
- Alarm box or control panel packages available

ACCESSORIES:

Float Tree (see CL0024 for options)



Products may not be exactly as shown.

Pump Systems

CENTRIFUGAL EFFLUENT PUMPS

APPLICATION:

Septic Tank Low Pressure Pipe (LPP) **Enhanced Flow STEP Systems**



- Non-Clogging vortex impeller design
- Passes 1/2" spherical solids 1-1/2" NPT discharge
- Automatic resetthermal overload protection
- All stainless steel hardware
- Cast iron switch case, motor and pump housing
- Engineered, glass-filled impeller with metal insert
- Glass-filled polypropylene base
- UL Listed 3-wire 15' standard cord
- Corrosion-resistant powder coated epoxy finish

ACCESSORIES:

Pump Stand (p/n 10-2421)



Model 142

METERS Ħ PERFORMANCE CURVE 51,53,98,142,145,151,152,153 75 22 20 65 18 50 14 DYNAMIC HEAD 25 2 -10 20 30 GALLONS LITERS 160 FLOW PER MINUTE

151976

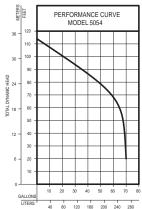
NOTE: Boxed numbers only apply to Centrifugal STEP Systems

HIGH HEAD CENTRIFUGAL **EEFFLUENT PUMP MODEL 5054**

FEATURES:

- 230 V, 1 HP, 1 Ph
- 14.0 FLA
- Non automatic (N)
- 1-1/2" NPT discharge
- Passes 3/4" spherical solids
- · High efficiency, semi-open vortex impeller
- · Maximum flow of 70 GPM at 20' TDH
- · 114' shutoff head
- · powder coated, cast iron housing





Model 5054

CENTRIFUGAL STEP SYSTEMS

APPLICATION:

Onsite enhanced flow or low pressure pipe (LPP) systems, or repairs to failed septic systems where gravity flow is not an option.

FLOW RATE:

Up to 50 GPM

FEATURES:

- Available with various centrifugal pumps
- Tank made from durable polyethylene
- Cast iron centrifugal pump
- Alarm box or control panel packages available

ACCESSORIES:

STEP system stand (p/n 5040-0041)



Effluent Filters

WW1 EFFLUENT FILTER

APPLICATION:

Single family homes

FILTER AREA:

132 linear feet of 1/16" filtration

MAX. FLOW RATE:

1,500 GPD

FEATURES:

- Improves the performance of your septic system
- Controls surges
- Prolongs lateral field life
- Easy to install or retrofit
- Easy to maintain
- Filters can be manifolded together to increase
- All filters fit 4" SCH 40 or DWV tees.
- Reducer bushing included for SDR 35 tees.
- Allows the homeowner to monitor the condition of the tank



NSF

ACCESSORIES:

High Water Alarm Bracket (p/n 5090-0014)

WW4 EFFLUENT FILTER

APPLICATION:

• Single family homes or commercial applications

FILTER AREA:

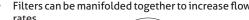
528 linear feet of 1/16" filtration

MAX. FLOW RATE:

4,000 GPD

FEATURES:

- By-pass protection
- Outlet socket designed for gluing to 4" SCH 40 pipe
- Reducer bushing included for SDR 35 pipe
- Filter handles provided to extend up inside riser
- Integral pipe bosses for support legs
- All materials are non-corrodible in the septic tank





PRESSURE EFFLUENT FILTER

APPLICATION:

Single family homes or commercial applications. Low-pressure pipe, drip, or enhanced flow applications. Prefilter for dosed treatment devices such as recirculating media filters.

FILTER AREA:

The filter screen is a type 347 stainless steel with 1/16" diameter holes. By using sock inserts, filtration to 100 or 600 microns is achieved. The element is 3 inches in diameter and 18 inches long with a 69.5 square inch open area.

FEATURES:

- Available in 2" or 3" PVC socket inlet/outlet
- Can be used with centrifugal pumps or turbine pumps

ACCESSORIES:

Pressure alarm switch (p/n 5000-0006) Standard screen removal wrench (p/n 5000-0004) Bristle screen removal wrench (p/n 5000-0005) (use with filter sock)

Protective sock

100 Micron Sock (p/n 5000-0002) 600 Micron Sock (p/n 5000-0003)



NOTE: Pump and discharge pipe not included.



Distribution Components

ACTUATOR ZONE VALVES

APPLICATION:

Zoning of large effluent distribution networks A more reliable alternative to solenoid valves

FEATURES:

VALVE:

- Never needs lubrication
- Can be operated manually
- 24-month limited warranty
- 2 and 3 port configurations

ACTUATOR:

- Mounts directly to zone valve
- Utilizes 24-volt AC power
- Movement is completely customizable
- 24-month limited warranty









AUTOMATIC MULTIZONE VALVES

APPLICATION:

Multiple-zone residential and small commercial disposal fields

FEATURES:

- No electricity required
- For use in pump-fed applications
- 4000 Series High-strength non-corrodible ABS polymer construction
- 6000 Series Die-cast metal & high-strength non-corrodible ABS polymer construction
- Purple cap indicates applicability for wastewater
- Preassembled units with unions and shut-off valves are available.
 Consult factory.
- Available for 2 to 6 zone operation





TRU-FLOW® SPLITTER SYSTEM

APPLICATION:

Alternative to a concrete distribution box 4:1 or 3:2 recirculating splitter

FEATURES:

- Tested from 1/10 GPM to 30 GPM flows
- Bubble level built-in for easy adjustments and maintenance
- Maintainable and adjustable from surface after installation
- 4" riser easily attached to visually inspect and adjust the diverter
- Non-corrodible polypropylene frame
- Will tolerate settlement of as much as 15 ° front-to-back (30 ° total) and/or 12 ° side-to-side (24 ° total)
- Field adaptable from 2 to 5 outlets
- SCH 40 model also available

ACCESSORIES:

6" diameter x 36" tall riser (p/n 173-0007)



TRU FLOW



Distribution Components

ORIFICE SHIELDS APPLICATION:

Protects dosing orifices from surrounding media in pressurized distribution systems

FEATURES:

- Solid (upward spray) or slotted (downward spray)
- 3" shields easily snap onto 3/4" or 1" piping
- 4" shields easily snap onto 1-1/2" or 2" piping





Slotted or Solid Caps

DRIP LINE & ACCESSORIES APPLICATION:

Drip irrigation is an ideal dispersal method for placing treated effluent into limiting soil conditions that have shallow fragipans, rock layers, water tables and high clay content. Designed to enhance soil treatment and dispersal performance by using small, timed doses over a uniform area, drip irrigation can allow sites that were otherwise unusable for a conventional septic system to become useable.

Zoeller has a complete line of drip irrigation components including treatment systems, drip tubing, connectors, control panels, hydraulic control units, and pumps. Let our experienced staff assist your system designer with drip irrigation CAD drawings and specifications from small home systems to large commercial and clustered systems.











Distribution Components

BULL RUN® VALVE

FEATURES:

- Available in 4" SCH 40 PVC
- · Effluent use only
- No user contact with wastewater
- Actuator key for changing valve from one drainfield to another

ACCESSORIES:

Actuator keys 28" (p/n 170-0044) 36" (p/n 170-0045) 48" (p/n 170-0046)

APPLICATION:

· Alternate effluent flow from one drainfield to another



SPLITTER VALVE & CAT'S EYE WEIR

APPLICATION:

· Splits effluent flows for wastewater recirculation

FEATURES:

- · 80/20% weir comes standard
- · Additional weir plates are available. Consult factory.
- · Adjustable return rate



SPIDER VALVE ®

APPLICATION:

- · Pressurized splitting to a gravity disposal field
- Small lots requiring unequal lateral line length

FEATURES:

- Splits effluent evenly from 2 lines up to 10 lines
- Install at highest elevation in system
- Mounts in 24" diameter access riser
- 3 feet of 1/2" PVC flexible pipe on each discharge for ease of assembly
- 2" SCH 80 PVC manifold with cleanout for equal pressurization and easy maintenance
- Comes standard with 5/32"
 Id washers

ACCESSORIES:

Distal pressure gauge kit (p/n 5051-0039)



6 Outlet Shown

Accessories

CONTAINER ASSEMBLY

APPLICATION:

Allows use of effluent filters outside the septic tank

FFATURES

- Includes filter container, a riser lid and screws, a 12" riser, 4" SDR 35 and SCH 40 pipe seals and sealant
- Additional 6" or 12" tall risers are available

ACCESSORIES:

WW1 effluent filter with 4" sanitary tee (p/n 170-0144)

EZ-PULL QUICK DISCONNECT

APPLICATION:

Allows for quick installation or removal of a pump.

FEATURES:

- Available in 1-1/2" and 2" FPT.
- Two-piece tapered male and female connection with an O-ring to provide a watertight seal.



CARBON VENT

APPLICATION:

- Septic tank
- · Portable toilet



FEATURES:

- Fits 3" or 4"
- · Non-corrodible material
- · Eliminates septic tank odors
- No adverse effect to the biological septic tank environment
- · Withstand ambient weather conditions

STANDARD RISER SYSTEMS

FEATURES:

- Available in 12", 18", 24", and 30" diameters
- Heights up to 7'; for larger heights consult factory
- All materials are non-corrodible & environmentally safe
- · Lid is secured with square drive screws
- Sturdy construction
- · Gas-tight and watertight



ECONOMY RISER SYSTEMS

FEATURES:

- Available in 12", 20", and 24" diameter
- Injection-molded
- HDPE is non-corrodible in a septic environment
- Watertight
- Stackable





Controls

CONTROL PANELS

APPLICATION:

Media filter systems Pressure distribution systems Mound systems

FEATURES:

- NEMA 4X enclosure
- Panels include (3) 20' control switches
- Exterior alarm: test/normal/silence
- 24-month warranty
- Lockable Latch
- Custom panels available. Consult factory.







Float sold separately

91104-0001 Apak® Outdoor Alarm

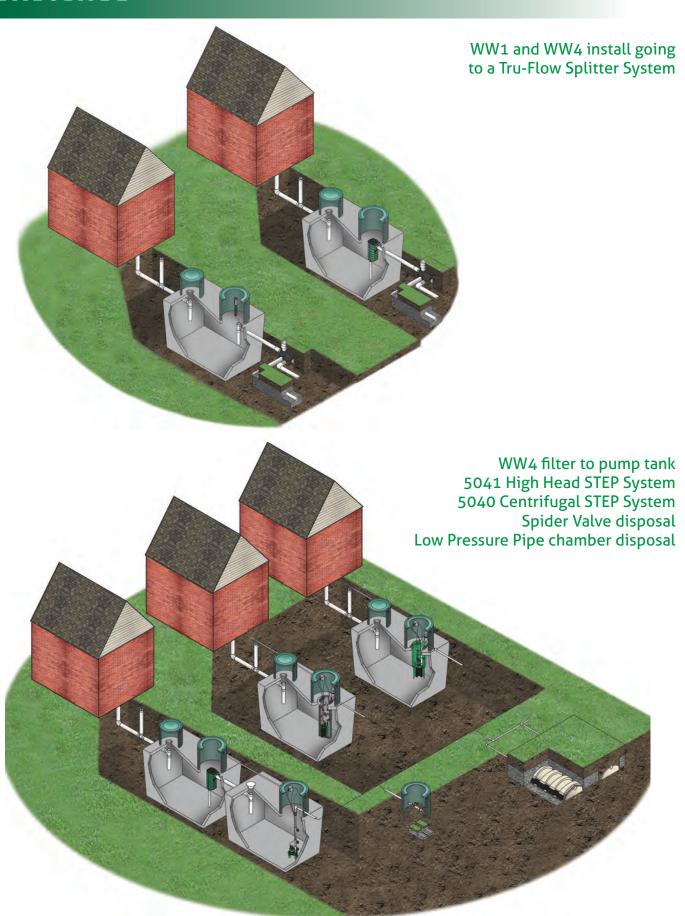
FEATURES:

- Alarm system (horn & light) operates to warn of a high-water condition
- Auxiliary dry contacts for high level alarm, 5 Amps
- Operates on separate circuit from pump, 115 VAC
- Alarm test and horn silence switch with automatic reset
- Terminal connections for a pump and float switch (Model 91104-0001)
- Can be used with liquids to 140 °F (60 °C)
- 15' (5 m) float switch (Model 91104-0001)
- 20'(6 m) float switch, 6' (2 m) power cord, watertight cord connectors (Model 10-0682)
- 3 year limited warranty (Model 10-2614, 10-0682, 91104-0001)

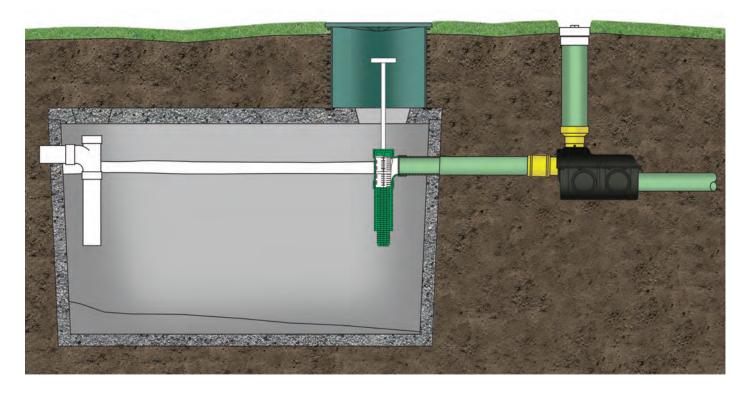
NOTE: All variable level float switches in this section are mechanically activated and do not contain mercury.



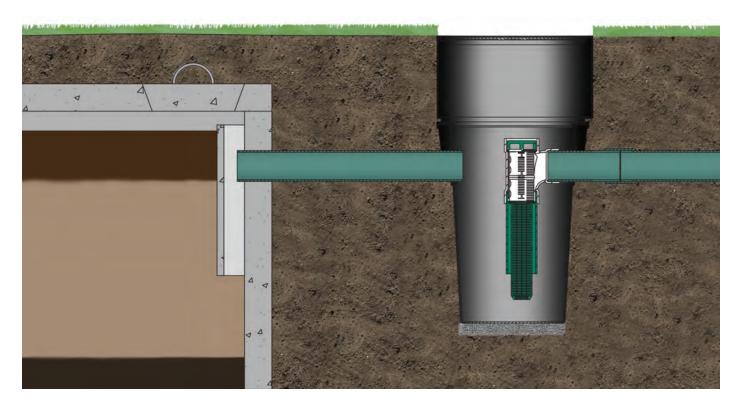


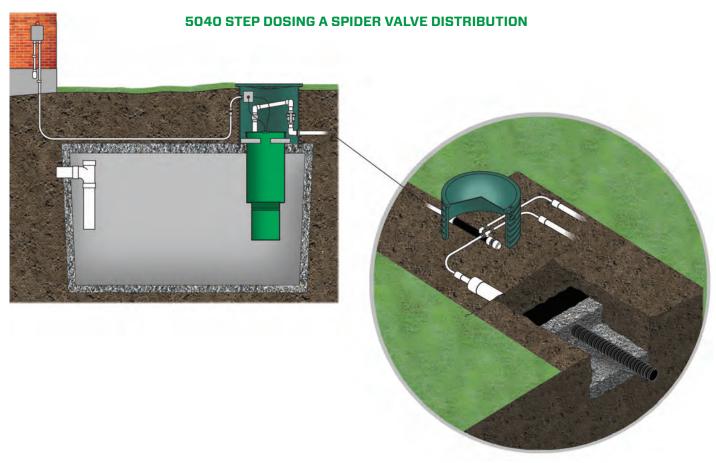


WW1 EFFLUENT FILTER TO TRU-FLOW SPLITTER SYSTEM

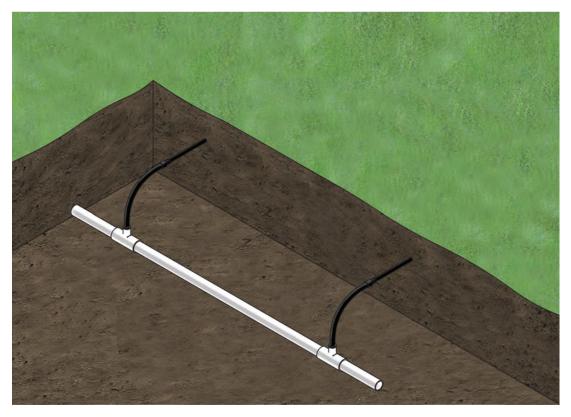


FILTER CONTAINER INSTALLATION WITH A WW1

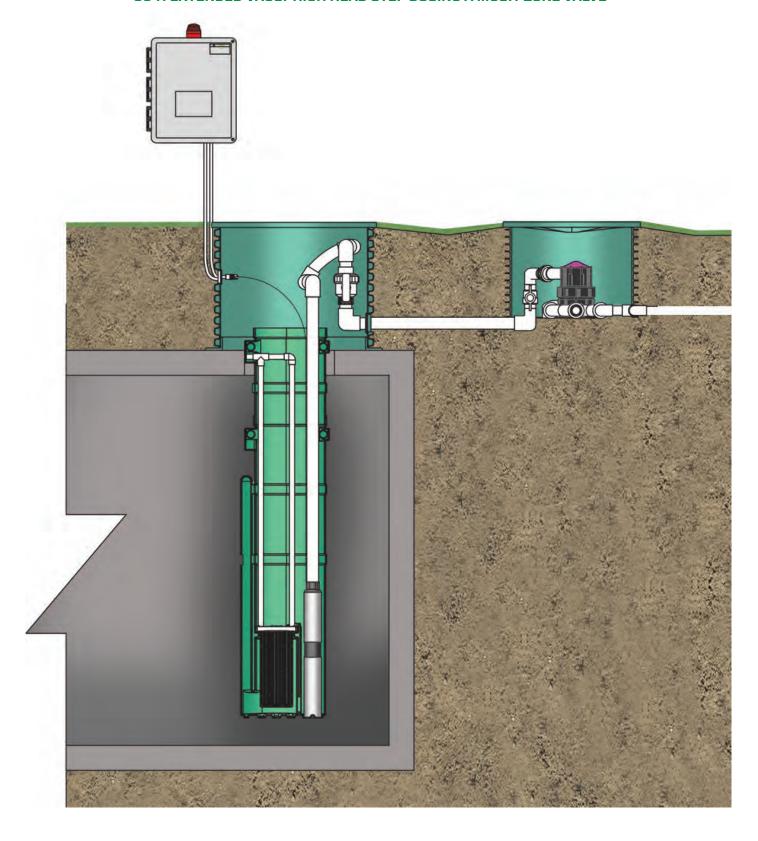




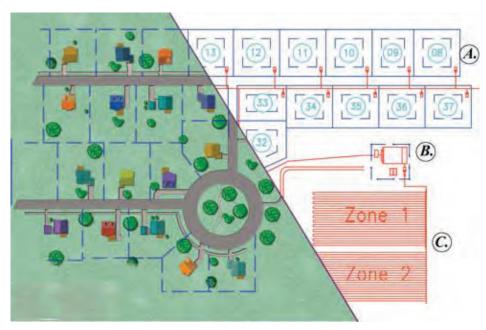
DRIP IRRIGATION AND MANIFOLD



5041 EXTENDED VAULT HIGH HEAD STEP DOSING A MULTI-ZONE VALVE



Bringing It All Together



A. Step Collection; B. Recirculating Media Filter; C. Drip Irrigation

Zoeller Pump Company's Treatment Systems provide cost-effective alternatives to conventional gravity sewers and municipal wastewater treatment plants. Recirculating media filters and constructed wetlands can be customized to fit nearly any domestic wastewater application. While Zoeller Pump Company has strong roots in product manufacturing, we can bring much more to a project than just system components.

No two projects are the same, and Zoeller Pump Company has valuable experience in optimizing custom solutions for custom jobs. From brainstorming options at a project's inception, to providing product details and customized specifications during the design phase, to providing a myriad of construction and post-construction support, our knowledgable staff is our greatest resource. Let Zoeller Pump Company assist you with the ideal solutions for your project.



Treatment Systems

RECIRCULATING MEDIA FILTERS

Media filters containing sands and gravels have been in use for over 125 years. Within the last 40 years, these treatment systems have become refined and better understood. Media treatment systems are a form of aerobic trickling filter, and are well adapted to residential, commercial, and municipal onsite waste treatment. These systems frequently replace aerobic package plants in many parts of the country because of their high reliability and lower O&M requirements (EPA 2002).

APPLICATIONS

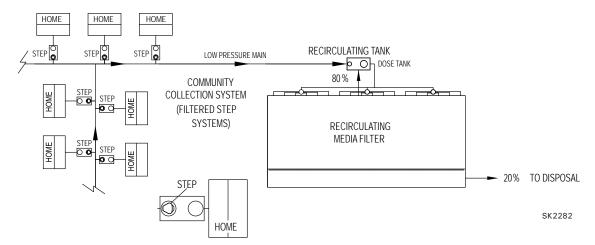
- Residential
- Commercial
- Small Community
- Cluster

FEATURES

- Robust, passive aerobic treatment
- Specified gravel meida is more reliable than sand (3/8 inch)
- Proven and reliable technology
- Minimal maintenance requirements
- Produces <25 ng/L CBOD5 abd <30 mg/L TSS
 *based on demestic strength infuent
- Design can be adapted to specific organic and hydraulic loading. Please contact the factory for design assistance.



COMMUNITY TREATMENT SYSTEMS



Municipal kits are designed for clustered systems where the waste strength is more predictable (BOD<200) due to the multiple sources of waste generation.

30' x 20' -	3,000 GPD	50' x 60'	-	15,000 GPD
30' x 30' -	4,500 GPD	50' x 72'	-	18,00 GPD
30' x 40' -	6,000 GPD	50' x 90'	-	22,500 GPD
30' x 50' -	7,500 GPD	50' x 96'	-	24,000 GPD
30' x 60' -	9,000 GPD	50' x 108'	-	27,000 GPD
50' x 36' -	9,000 GPD	50' x 120'	-	30,000 GPD
50' x 48' -	12,000 GPD	50' x 144'	-	36,000 GPD

^{*}Custom sizes can be configured for specific projects. Please consult factory.

Treatment Systems

HIGH PERFORMANCE UPFLOW WETLANDS

Z-CELL WETLANDS

An attractive, robust and environmentally sound treatment system

The Zoeller Pump Company Z-Cell® is a high-performance wetland designed for use in decentralized wastewater applications where the effluent quality must meet or exceed secondary treatment standards. The Z-Cell® is a timed-dose system and the wastewater has a 36" vertical path to an outlet pipe below the wetland's surface. By moving water vertically, the fluid must pass through the horizontally-oriented plant root zone. This eliminates short circuiting, an issue common in conventional constructed wetlands. During the growing season, evapotranspiration through plant leaves reduces the hydraulic load to downstream components.



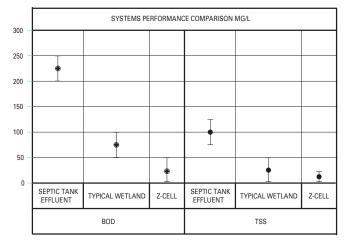
Z-Cell® Wetland Wastewater treatment system - Letting Nature Work.

APPLICATIONS

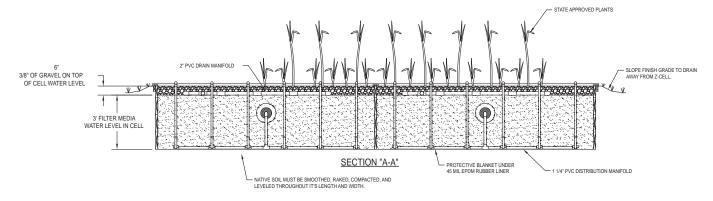
- Residential
- Commercial
- Small Community
- Cluster

FEATURES

- Anaerobic vertical flow treatment
- Beautiful addition to the natureal landscape
- Less waer to disperse during the growing season
- Produces <25 mg/L CBOD5 and <30 mg/L TSS
 *based on domestice strength influent
- Design can be adapted to specific organic and hydraulic loading. Please contact the factory for design assistance.







NOTE: ALL AGGREGATE MATERIAL SUPPLIED BY OTHERS. NOTE: MEDIA FILTER SHOULD BE BACK FILLED AS AGGREGATE IS BEING ADDED TO MEDIA FILTER DON'T EXCEED 18" DIFFERENCE IN THE MEDIA FILL AND THE BACK FILL. NOTE: ALL LUMBER TO BE JOINED WITH GALVANIZED OR S.S. DECK SCREWS, SPIRAL NAILS, OR BOLTS. STANDARD NAILS ARE NOT ACCEPTABLE THEY COULD BACK OUT AND PUNCTURE THE! INFER

SK2338A

Installations



Case Studies

COMMERCIAL RECIRCULATING MEDIA FILTERS





A church, located in Central Indiana, was expanding to accommodate an increase in membership and the existing septic system was too small for the new kitchen facility. A Zoeller 20'x 30' Recirculating Media Filter was designed to handle up to 3,000 GPD, with a drip system for final effluent disposal. The versatility of drip was demonstrated by locating the three zones in an adjacent field used for recreational purposes. The system was installed in June, 2003 and fourteen subsequent samplings have revealed an average effluent quality of 3 mg/L BOD5 and 2 mg/L TSS.





A restaurant, located in South Central Kentucky, was experiencing a \$6,000 per month expense pumping their holding tanks. The 150 seat restaurant had a design flow rate of 4,500 GPD with septic tank effluent waste strength over 600 mg/L BOD5. A Zoeller 50' x 36' Recirculating Media Filter was installed in March 2004. Effluent is dispersed through 15,000 feet of pressure compensating drip line. Sampled quarterly for four years after installation, effluent BOD5 and TSS are less than 7 mg/L - a 98% reduction in waste strength.

Case Studies



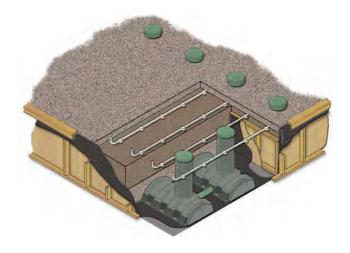


A utility company located in South Central Wisconsin had a failing aerobic package plant and needed an alternative system. The failing plant was not only high maintenance but was also discharging unacceptable effluent to a nearby recreation area, causing intense public scrutiny. Zoeller Pump Company was able to work with a local engineering firm to solve the wastewater dilemma. A 40'x 70' recirculating media filter, capable of handling 14,000 GPD, was designed to meet their needs. Plant personnel were trained by Zoeller and are now routinely monitoring and maintaining the system.



Lake Conway, the largest commissioned game and fish reservoir in the U.S., is a major recreational destination in Central Arkansas. The lake was finished in 1951, and development around its shores began almost immediately. At the time, little was done to standardize the septic installations. The lack of good quality installations, combined with poor soils and negligent septic management practices, led to pollution in the waters of Lake Conway. Money was granted in a first phase to convert over 300 of the original 1,700 homes from their existing septic tanks to a new wastewater treatment system. Zoeller Recirculating Media Filters were engineered to treat the clustered wastewater. In addition, Zoeller Pump Company helped design the force mains that delivered the septic tank effluent from each home to the treatment system. The system is composed of four 55' x 140' recirculating media filters and is designed to treat over 150,000 gallons per day. Treated water passes through a chlorine contact basin for sterilization and is discharged into the lake. Discharge limits were established and monitored by the Arkansas Department of Environmental Quality. The system is operating and performing well.





Case Studies

RECIRCULATING MEDIA FILTER SOLVES HIGH STRENGTH WASTE PROBLEM

PROBLEM

Huber's Orchard and Winery, located in Starlight, IN, had installed a mound system to treat waste from numerous structures including an ice cream shop and a catering operation. After one year of careful monitoring by the local county health department and the State Department of Health, it was determined that the waste strength loading was too high for the new mound system and an additional pretreatment system was needed to lower the waste strength prior to discharge to the mounds.

SOLUTION

Zoeller assisted with recommendations for a new pretreatment system and ultimately recommended a recirculating media filter (RMF) treatment system to be installed between the existing septic tanks and the mound system. A local engineer designed the new RMF resulting in the construction of a 30 ft x 30 ft RMF. Zoning of the RMF distribution laterals was utilized so the effective treatment area could be reduced as needed by turning off zones during slower times of the year when flows were lower. Two new dose tanks were installed and plumbed together. These tanks were used as recirculating dose tanks and contained two Zoeller Model 295 pumps that were controlled by a duplex time dose panel.

RESULT

Commissioning of the RMF was done in October 2019. Within approximately one month, the new RMF was treating wastewater efficiently, meeting the objective of effective pretreatment to the mound system.





ABOUT THE ZOELLER FAMILY OF WATER SOLUTIONS

Founded in 1939, Zoeller Company is one of the oldest independently-owned professional pump manufacturers in North America. Headquartered in Louisville, Kentucky USA, Zoeller has over 800 employees worldwide and close to 600,000 sq. ft. of manufacturing facilities from our seven operations in North America and Asia.

Zoeller Company has established itself as an innovative leader in pumping equipment and water treatment systems by continuous research and development. The quality of our products is demonstrated by UL, CSA, CE, and NSF listings as well as continued growth throughout the United States, Canada, Mexico, and over 40 other countries around the globe. The company has also expanded to include four brands, which have become the foundation of Zoeller.



The original Zoeller product line now resides in Zoeller Pump Company, which offers a broad range of submersible pumps from fractional to 7-1/2 HP for residential and commercial sump, effluent, dewatering and grinding applications.



Flint & Walling, founded in 1866 in Kendallville, Indiana USA, is the only pump company in the U.S. to manufacture its own motor for jet and centrifugal pumps. This product line specializes in deep well pumps that range from 5 GPM to 1,000 GPM, as well as centrifugal, jet, booster, and submersible pumps up to 7-1/2 HP.



Founded in 1952, Wolf Pump is a manufacturer of submersible turbine pumps located in Abernathy, Texas. Wolf currently produces 4" to 8" pumps with capacities ranging from 35 to 1000 GPM. These pumps are known for their efficiency and durability in demanding water applications including irrigation, municipal water supplies, dewatering applications, dairy production, mining, the oil and gas industries, aquaculture, and more.



markets.



CL0011 0824 Supersedes 0122

