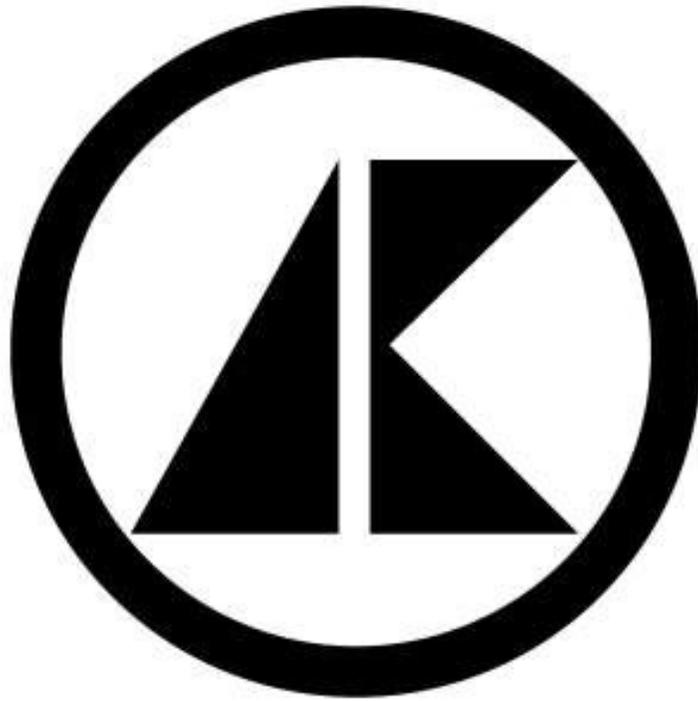




(317) 346-4110
www.drainagesolutionsinc.com



AK INDUSTRIES

SEPTIC

TRAINING

MANUAL

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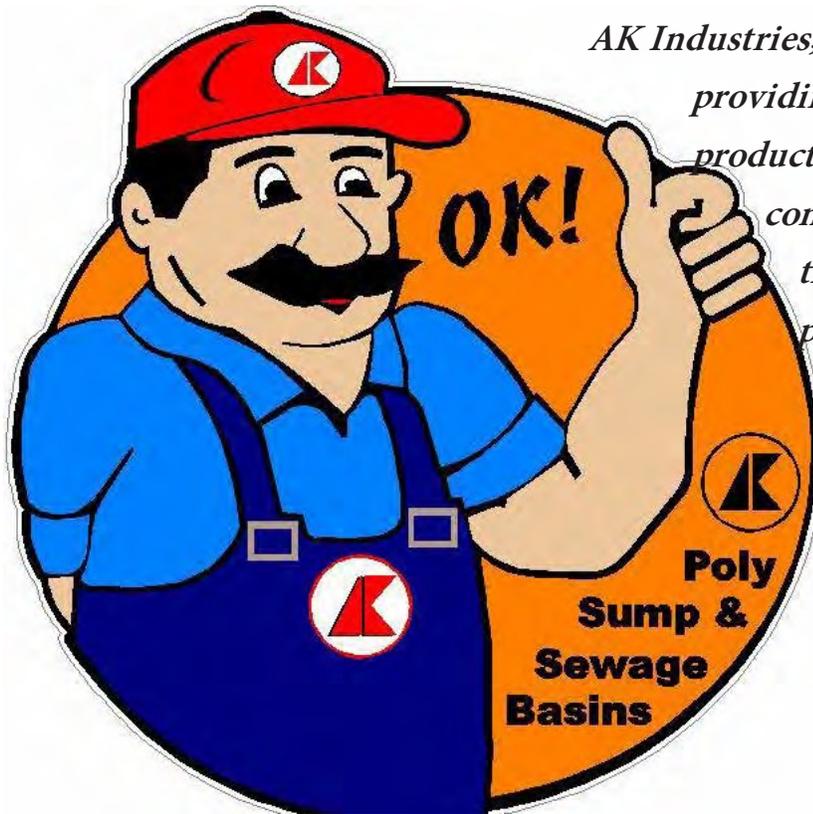
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INTRODUCTION



AK Industries, Inc. is dedicated to providing great quality polyethylene products to consumers. Poly tanks have become the tank to turn to and more popular than ever. This is due to their ease of transportation, water tight design, and structural integrity. With sizes from 300 to 1500 gallon capacities available, there is a tank for virtually any job. Besides having approvals in every region of the country, we offer a wide variety of tank options and accessories including risers, baffles, double lid systems and much more.

AK Industries, Inc. has grown into being a leader in fiberglass and polyethylene products for the wastewater industry. Located in Plymouth, Indiana, we have been in business for over 30 years and are looking forward to a bright future. AK currently employs 115 people and they do their work in over 150,000 square feet of space. We realize that our next 30 years of success will depend on our continued commitment to YOU our customer. Let us prove that we can supply you with customer service, quality products, and value. Let us prove we are still the “Best Around Underground.”

SECTION 1: SEPTIC SYSTEM DESCRIPTION

1.1 SEPTIC SYSTEM COMPONENTS

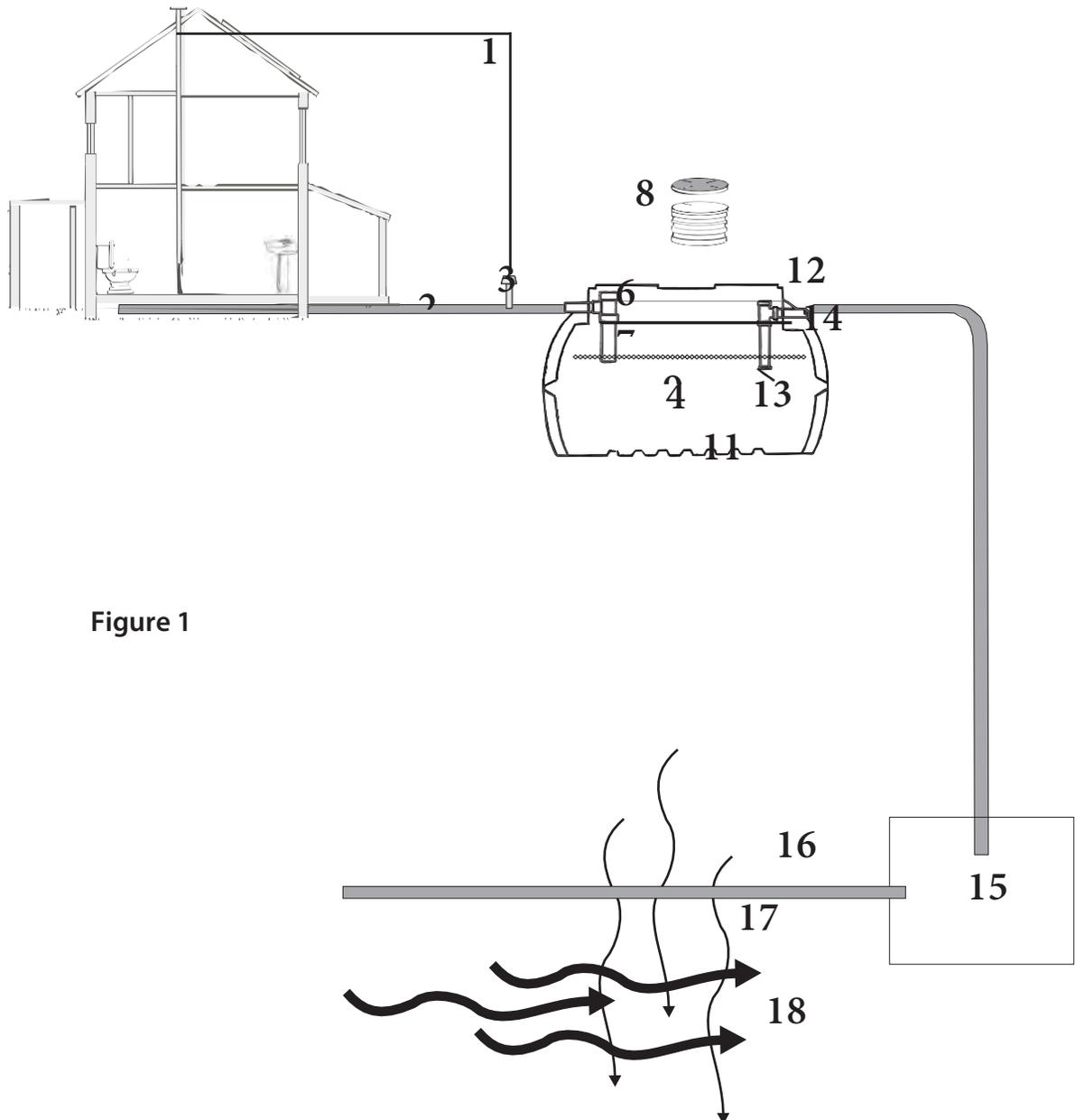


Figure 1

1. House Vent
2. Septic Pipe
3. Optional Septic Pipe Vent
4. Septic Tank
5. Inlet Tee
6. Inlet Access
7. Access Risers
8. Access Lids
9. Floating Solids

10. Liquid Level
11. Settled Solids
12. Outlet Access
13. Outlet Tee
14. Discharge Pipe
15. Distribution Box
16. Drain field
17. Percolation/ Purification
18. Groundwater

SECTION 1: SEPTIC SYSTEM DESCRIPTION

1.2 SEPTIC SYSTEM PROCESS FLOW

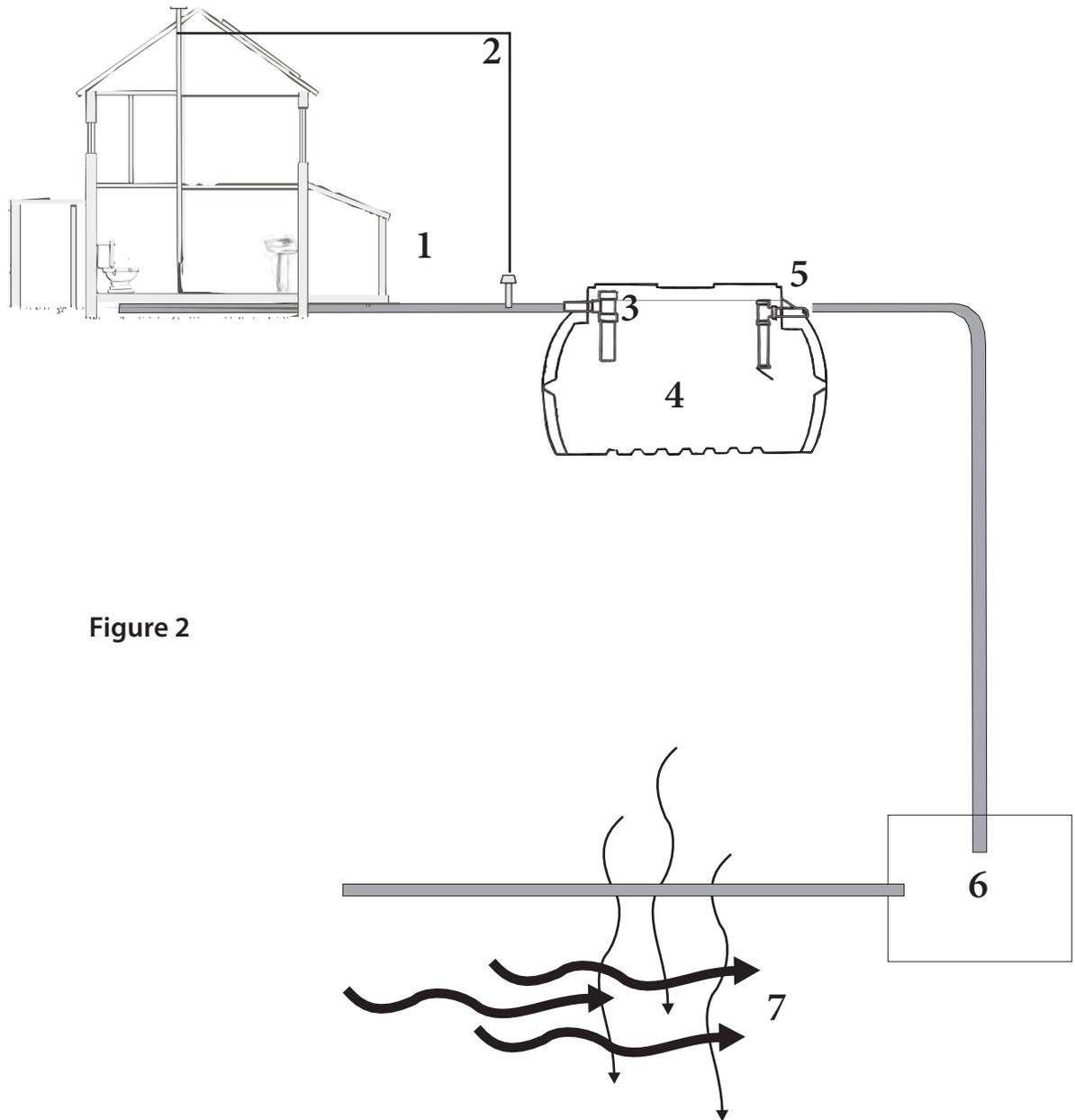


Figure 2

1. Wastewater flows from the home via the septic pipe.
2. Gas venting happens via the home vent or via the optional venting within the septic pipe.
3. Wastewater enters the septic tank via the inlet baffle and solids either float or settle.
4. Waste is then broken down within the tank by use of anaerobic bacteria.
5. Clear effluent is then discharged gravity via the outlet baffle into the discharge pipe.
6. The effluent then is evenly distributed to the drain field via the distribution box.
7. Water then is percolated and purified through the earth until it is added to the ground water.

SECTION 1: SEPTIC SYSTEM DESCRIPTION

1.3 SEPTIC SYSTEM REQUIREMENTS

Septic systems are very sensitive portions of a whole rejuvenation process of our earth. If waste were allowed to enter our ground water, sickness and disease would plague our populations. It is very imperative to install systems according to Federal, State, and Local regulations. Whether in a rural or urban area, authorities have designed policies to protect all from contamination from septic systems. It is important to become educated on the requirements of installing a septic system in your area.

All localities are different. Some agencies require sizing systems according to home size. Others size them by estimation of water usage via the facilities. There are codes designed to keep your system away from your well or more importantly your neighbors well. For these and many more reasons it is important to contact your local authority and determine what requirements you will be held to. Usually a Local Health Department (LHD) or Pollution Control Agency will have information. AK Industries cannot stress enough the importance of becoming educated prior to purchasing our products to insure you are installing the correct system.

A permit is usually required to install any septic system. If so, details can be found at your Local Health Department. A permit is an approval from the local authority to begin installation of a system. Usually there is a post inspection and then the close of the permit. Installing a system without a permit is unwise and not condoned by AK Industries, Inc. For further information please contact your LHD or AK Industries, Inc. at 574-936-2542.

As a last note, septic systems can become dangerous or hazardous. Please use extreme caution if you are going to inspect a system yourself. If one feels the slightest bit uncomfortable about dealing with poisonous flammable gasses or harmful microbes, then it is best to leave procedures to the professionals.

(Sample Permit next page)

Marshall County Health Dept

112 W. Jefferson Street, Room 103
Plymouth IN 46563

www.co.marshall.in.us

Phone 574 935-8565

Fax 574 936-9247

PERMIT #

code #

Application/permit for approval of an existing on-site sewage disposal system

Circle type of request

Replacing a dwelling with New

Remodeling or adding on to a dwelling

Refer to the specific guidelines for details

410 IAC 6-8.2-52 (a) The owner or agent of the owner shall obtain a written construction permit, prior to the following:
(2) Any replacement, reconstruction, expansion, or remodeling of a residence which may increase the number of bedrooms. The department policy is to consider any expansion of living space or structure that may change the septic load or infringe upon the systems isolation distance as requiring approval.

It is the responsibility of the applicant to supply sufficient proof that a proper on-site sewage disposal system exists which is in compliance with current state and county codes. This department requires a third party to provide the verification and this is a licensed septic pumper unless this department has inspected a new or repair installation recently (1 year). **If no permit exists proof of the absorption field will be required, and repairs with variances may be an issue.**
Please submit the following:

- Complete this form and have us check for a permit
- A **sketch** showing well and septic and footprint of the house and additions. Please note separation distances between the well, the septic, and existing or proposed buildings/structures.
- **Verification of the system**
- Check with the correct zoning and building departments for their requirements.

Date _____

Name of contact person _____ Telephone _____

Mailing address _____ City _____

Owner if different from above _____

Location of the property if different from above _____

Reason for the request _____

| | | |
|----------------------------|-------------------------------------|-------|
| Number of bedrooms: | Current home | _____ |
| | Total after proposed changes | _____ |

Will this be a gravity connection? _____

Has this property and septic been in use for last six month _____ if not why? (Use the back)

Septic Info - Anything else that might help locate a permit - name of owner, installer, or date installed:

You certify that the information provided on this application and supporting evidence is a true representation of the plans and septic system conditions to the best of your knowledge

Note: If a one bedroom increase is allowed, the system will be undersized for the number of bedrooms in the home. This is at the owner's risk. In the future, you must inform any buyers of the undersized system.

Signature _____

-----Office use-----

Legal description Sec _____ Twp _____ R _____ Twp Name _____

4-30-12

Parcel # or state ID _____
t r sec

Approved by _____

Date _____

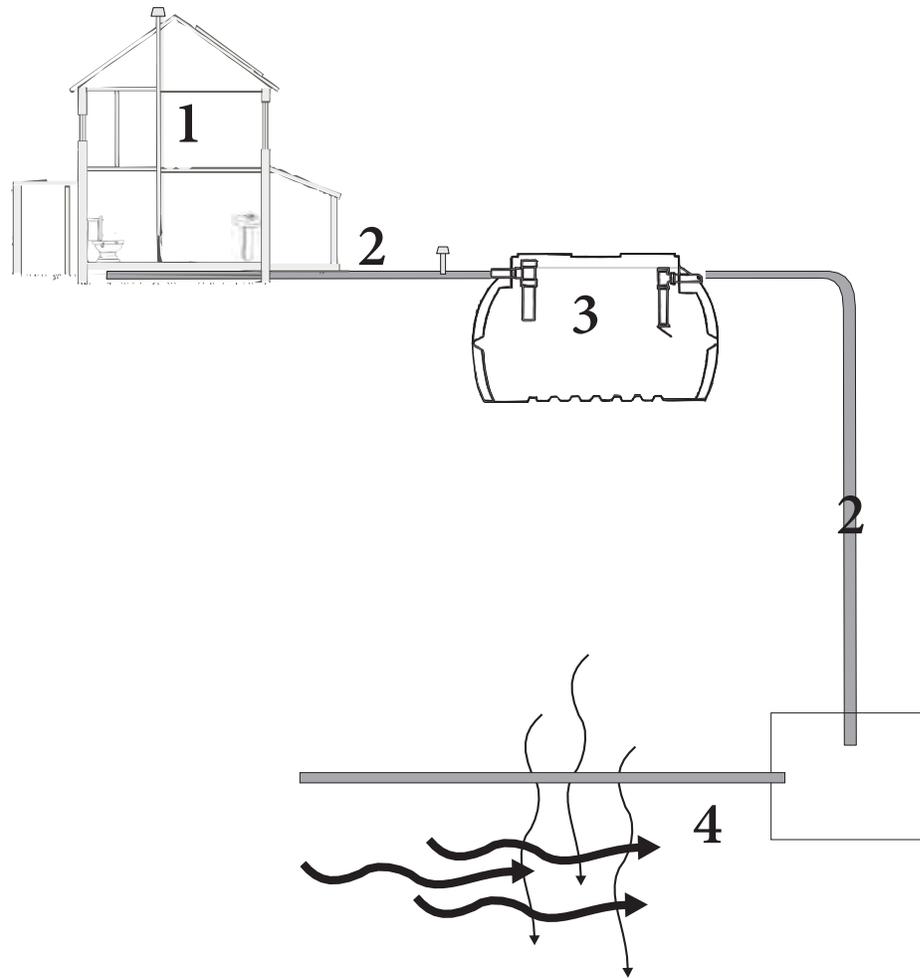
Permit # _____

Valid for one (1) year

Health Officer _____

SECTION 2: MAINTAINING A SEPTIC SYSTEM

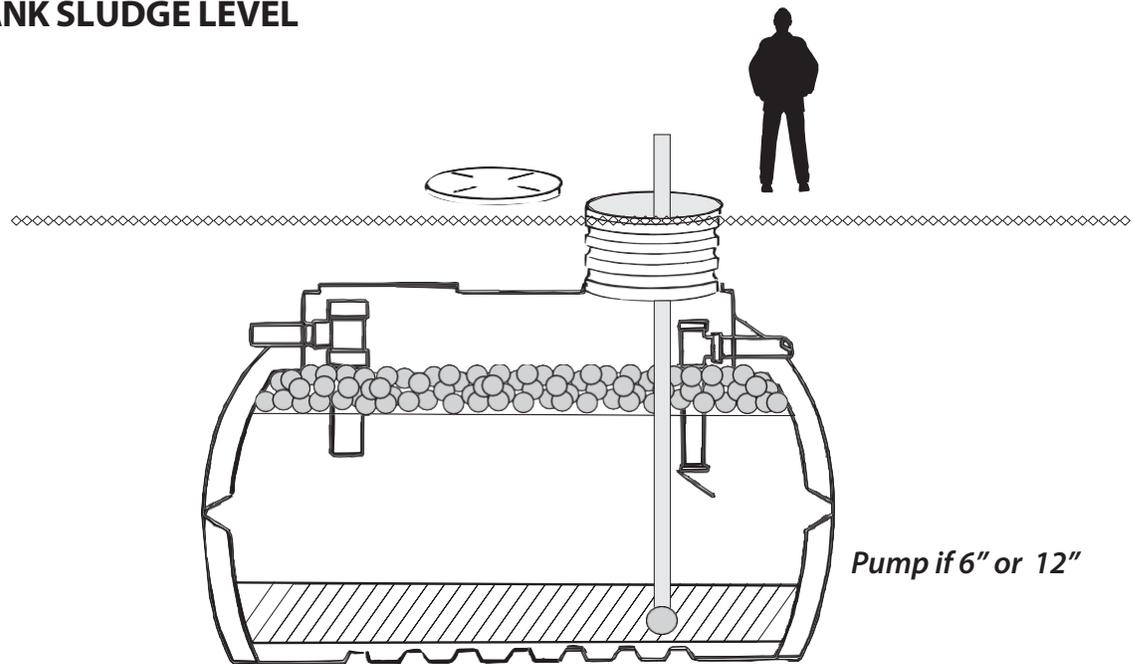
2.1 INSPECT HOME AND COMPONENTS



1. Insure that your plumbing and fixtures are in good working order with no leaks. Be sure to inspect; faucets, commodes, sinks, bathtubs, water softeners, washing machines, garbage disposals, water filter systems, sump pumps, etc.
2. Inspect the septic piping for breakage, crimping, or cracks. A good indicator of this is if the soil around the site is saturated. Note: Never drive a vehicle over your septic piping or system what-so-ever.
3. Inspect the tank for any kind of damage. Cracks, dents, and bends are a real good indication that a septic tank may be failing. Note the amount of waste in the tank. Look for anything that should not be in the tank such as; rubber products, sanitary napkins, and the stray toys that a child may have put into the system.
4. Inspect the distribution box and drain field for signs of damage. Usually without running a camera down the system the only way to tell is if the lawn is saturated. Another method is if you seesunken areas of the yard.

SECTION 2: MAINTAINING A SEPTIC SYSTEM

2.2 INSPECT TANK SLUDGE LEVEL



1. Remove tank lid at the inlet side of the access.
2. Assemble sludge judge and insert into tank.
3. Take reading of sludge by pulling up on check valve and removing from tank.
4. Reinstall access lid.

NOTE: If floating scum is within 6 inches of the bottom of the outlet tee or sludge is within 12 inches, then it is time to have the tank pumped.

2.3 PUMP SLUDGE FROM TANK

1. Remove tank lid at the inlet side of the access.
2. Place hose in tank be cautious not to damage internal components.
3. Use mixer to break-up solids and help pumping process.
4. Pump system no more than half empty and be sure to replenish tank volume with water to avoid floating tank.
5. Reinstall access lid.



SECTION 3: DO'S AND DON'TS

(adapted from National Small Flows Clearinghouse & EPA's "A Homeowner's Guide to Septic Systems.")

3.1 DO'S

1. Always check with your Local Health Department for current policies and rules for septic system permitting.
2. Prior to planning your septic system installation educate yourself on proper rules and installation procedures.
3. Be cautious of the use of water softeners, garbage disposals, and pools or hot tubs. These may cause system over-volumization.
4. Be aware of items that may hurt your system such as harsh antibacterial soaps, detergents, or medications.
5. Know the components of your system and have them inspected regularly. A professional that can help with this would be a local septic contractor or pumper.
6. Maintain your system as best as possible to help the longevity of its function. Applying good practices such as water conservancy will increase the life of a system exponentially.

3.2 DON'TS

1. Do not work on a septic system if you are uncomfortable or uneducated with the hazards. Safety when it comes to a septic system is number one priority. Systems can become very dangerous atmospheres and should only be dealt with by professionals whom are qualified and trained to handle hazardous gasses and waste.
2. Do not utilize harmful substances in a septic system that may impede the function of the bacteria. Items such as antimicrobial soaps, detergents, and medication can be very harmful to the treatment of waste.
3. Do not allow vehicles to drive over piping or any other components of a system. Costly damage may occur.
4. Do not place items in tank that have no business being there. Items such as; rubber products, feminine hygiene items, toys, and non-degradable products can cause blockages and interrupt the treatment process.

NOTE: There is great controversy whether microbial additives work. AK Industries, Inc. has no data to neither support nor oppose the benefits of such additives. However, its use is the responsibility of the user and AK Industries, Inc. accepts no liability of how a system is designed or used, this includes the installation and maintenance performed.

SECTION 4: SEPTIC AND PUMP TANKS

4.1 STANDARD SEPTIC TANKS

1500 Gallon
Available with dual compartments

- (2) 20" LIDS
- 6" or 12" STACKABLE RISERS (OPTIONAL)



- (2) 20" LIDS
- 6" or 12" STACKABLE RISERS (OPTIONAL)

1300 Gallon
Available with dual compartments

1000 Gallon
Available with dual compartments

- (2) 20" LIDS
- 6" or 12" STACKABLE RISERS (OPTIONAL)

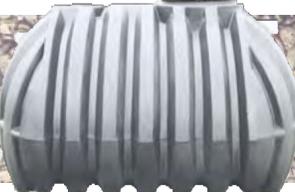


- (2) 20" LIDS
- 6" or 12" STACKABLE RISERS (OPTIONAL)

1050 Gallon Low Profile
Available with dual compartments

750 Gallon

- (1) 20" & (1) 10" LID
- 6" or 12" x STACKABLE RISERS (OPTIONAL)
- 30" x 10" CUTABLE RISER



500 Gallon

300 Gallon Pump Tank
(For STEP or Dosing Systems)



4.1 STANDARD SEPTIC TANKS - continued

NOTES:

- * Maximum bury depth is 24" to top of tank.
- * Suitable for light lawn traffic (light lawn tractors no vehicles)
- * Not to be used as holding or pump tank, gravity only
- * Failure to adhere to installation instructions will void warranty.
- * Check local building codes before installation.

| REQUIRED TO HAVE GRAVEL BACKFILL | 300 GAL | 500 GAL | 750 GAL | 1000 GAL | 1050 GAL | 1300 GAL | 1500 GAL |
|----------------------------------|---------|---------|---------|----------|----------|----------|----------|
| LENGTH (IN) | 56 | 90 | 92 | 102 | 126 | 113 | 113 |
| HEIGHT (IN) | 52 | 43 | 54 | 63 | 53 | 71 | 71 |
| WIDTH (IN) | 56 | 62 | 67 | 67 | 66 | 69 | 96 |

4.2 AIO (ALL-IN-ONE) SEPTIC TANKS



1300 Gallon

Available with dual compartments



1500 Gallon

The 1500-gallon tank also available in AIO style. Not IAPMO approved.



1000 Gallon

Available with dual compartments



1000 Gallon Low Profile

Available with dual compartments



NOTES:

- » The Low-Profile 1050, Standard 1000, and 1300-gallon AIO septic tanks are IAPMO Z1000-2007 approved.
- » IAPMO approved tanks must be two compartment.
- » No water or gravel backfill necessary.
- » Install AK's NEW All-In-One septic with active, free-flowing soil.
- » All tanks are fitted for a pump vault
- » New green safety lids available.
- » 4' Maximum Burial Depth.

| | 1000 Gal. | Low Profile 1050 Gal. | 1300 Gal. | 1500 Gal. |
|-------------|-----------|-----------------------|-----------|-----------|
| Length (IN) | 102 | 126 | 113 | 113 |
| Height (IN) | 63 | 53 | 69 | 69 |
| Width (IN) | 67 | 66 | 69 | 69 |

4.3 PUMP TANKS

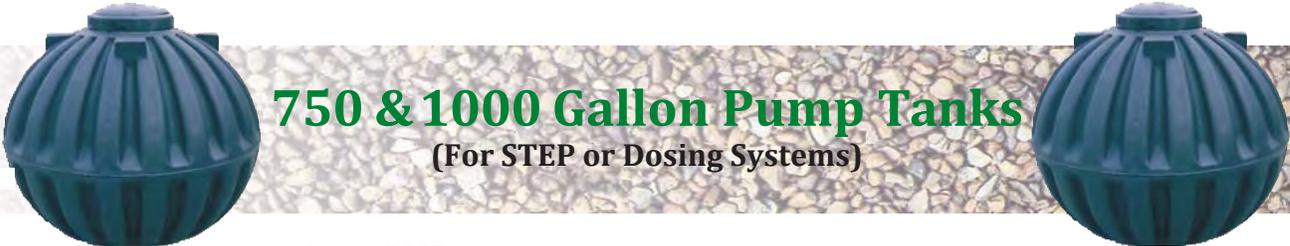
AK Pump Tank Line

300 Gallon Pump Tank
 (For STEP or Dosing Systems)

- (1) 20" LID
- 6" or 12" RISERS (see Standard)



750 & 1000 Gallon Pump Tanks
 (For STEP or Dosing Systems)



- (1) 24" LID
- 24" RISERS AVAILABLE IN 1' INCREMENTS UP TO 6'

NOTES:

- * Maximum bury depth is 4' to top of tank.
- * Recommended minimum maintained fluid level for pump tanks:
 - * 300 gallon is 6" of fluid
 - * 750 & 1000 gallon is 20" of fluid
- * Use of a Riser with 750 & 1000 is required

| | 300 GAL | 500 GAL | 1000 GAL |
|---------------|---------|---------|----------|
| DIAMETER (IN) | 56 | 90 | 92 |
| HEIGHT (IN) | 52 | 43 | 54 |
| CUBIC YARDS | 56 | 62 | 67 |

SECTION 5: INSTALLATION INSTRUCTIONS

5.1 INSTRUCTIONS FOR STANDARD SEPTIC TANKS



1 Dig and measure for appropriate tank. Allow for an extra 6-12 inches of space around the tank. Maximum depth of bury is 24" from top of tank to finish grade.

2 Dump 6-12 inches of gravel mixture in the bottom of the hole and level.



3 Set tank in hole and move the tank back and forth to settle tank in the gravel mixture. Use 3/8" - 3/4" gravel type aggregate.

4 Level tank before removing straps in case further extraction is needed. Install riser (if used) at this time.



SECTION 5: INSTALLATION INSTRUCTIONS

5.1 INSTRUCTIONS FOR STANDARD SEPTIC TANKS CONTINUED



5 Start addition of water and add approximately one foot more gravel mixture around the base of the tank. Continue to add the water at the same rate as the aggregate backfill material.

6 Continue the backfill with gravel mixture up to the top of the tank.



7 Level-out the gravel and prepare for the final top soil. Approximately 6" deep. Install cover at this time.

8 Backfill the finish grade with loose topsoil.



SECTION 5: INSTALLATION INSTRUCTIONS

5.2 INSTRUCTIONS FOR AIO AND PUMP TANKS

- 1 Inspect all materials for defects prior to installation.
- 2 Maximum depth of bury from the finish grade level to the top of the tank is 24"
- 3 Excavate hole a maximum of 12 inches larger than the tank that is being installed. Dig hole for accurate sizing. This reduces the distance between the tank and undisturbed soil. It also provides good support for the exterior tank wall.
NOTE: Never place tank directly on rock. If rocks are present, then place at least 12" of sand in excavated hole and level tank. Shifting tank from side to side will help settle and level tank.
- 4 Place 6-12 inches of sand into bottom of excavated hole and level tank.
NOTE: Direction of flow - the inlet is higher than outlet.
- 5 Wrap straps around tank or through lifting lugs (Do not put straps through man holes.) Carefully lower tank into the center of the excavated hole and seat into the sand base.
NOTE: If free flowing clay soil is being used for backfill, then you must fill the tank with water at the same rate as the backfill.
- 6 For proper fit, install the riser before you backfill.
- 7 Continue back filling the excavated hole with sand or free-flowing soil.
- 8 Fill evenly around the tank with sand or free-flowing soil and compact as you fill. Check for level.
- 9 Compact backfill under inlet and outlet pipe.
- 10 Complete backfill to within 6" of finished grade. Complete installation with topsoil. Mound the soil over septic tank to provide positive drain age away from the tank. This will also help to allow for soil settling. Install lids on risers, immediately after installation.



SECTION 6: SEPTIC EFFLUENT FILTERS

6:1 EFFLUENT FILTER INSTALLATION

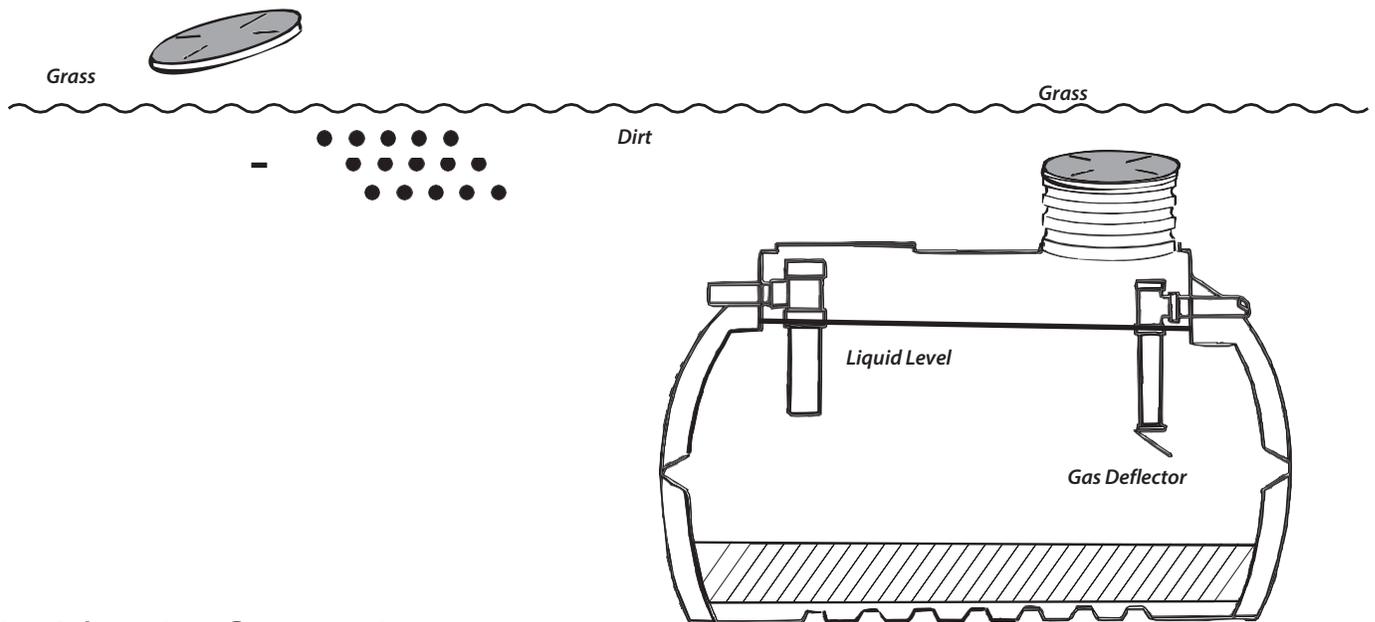
Step 1: Find the outlet access of your septic tank.

Access is at ground level:
Simply remove cover.

-or-

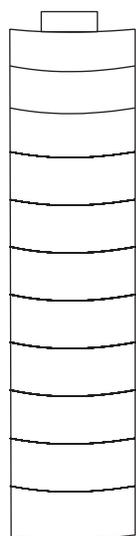
Access is below ground:

Use a probe or shovel to find access.

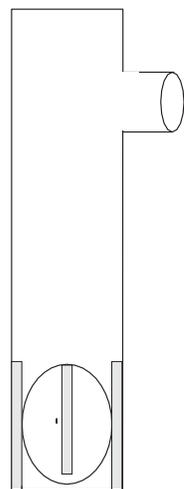


Step 2: Inventory Components.

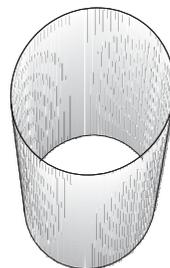
Items needed; Septic Filter, 4" Sch40 5x5 Coupling, 4" Sch40 pipe stub, PVC Primer, and PVC Glue.



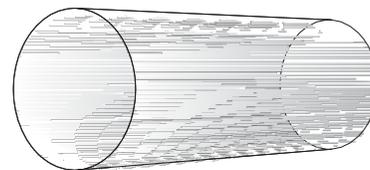
SEPTIC FILTER
CARTRIDGE



SEPTIC FILTER
ASSEMBLY



4" sch 40
5 x 5
Coupling



SEPTIC FILTER
CARTRIDGE 4" SCH 40
PIPE STUB

Length = Distance
required to position
filter directly under
access.



PVC PRIMER
AND GLUE



PVC
GLUE

Step 3: Install Components

New Installation:

Existing Installation:

Outlet tee assembly is not glued.

Outlet tee is glued.
Note: Pump tank to below water line to avoid solids going into drainfield.

Remove tee assembly and discard.

Use a PVC saw to remove the tee and discard

1

Coupling

1

Pipe Stubs

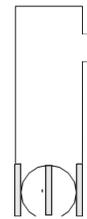
3

**Filter
Assembly**



4

**Filter
Cartridge**



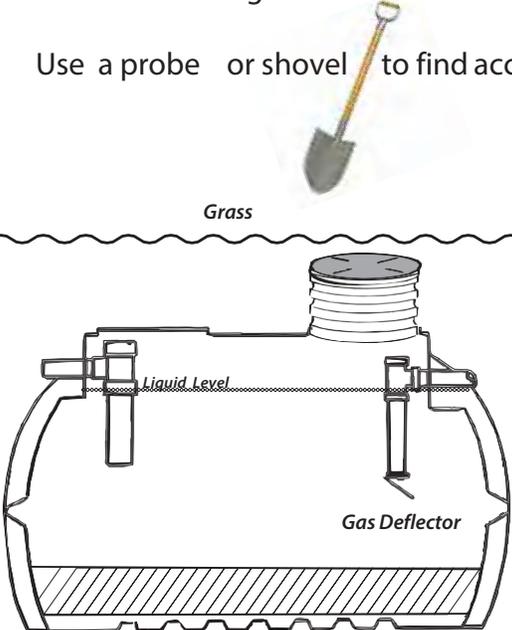
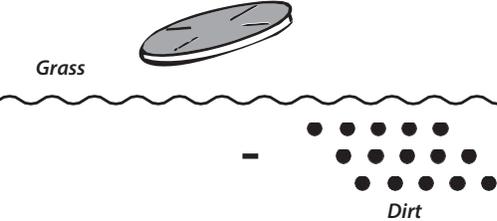
Glue; coupling, pipe stub, filter assembly and filter cartridge onto the outlet pipe.

6:2 EFFLUENT FILTER MAINTENANCE

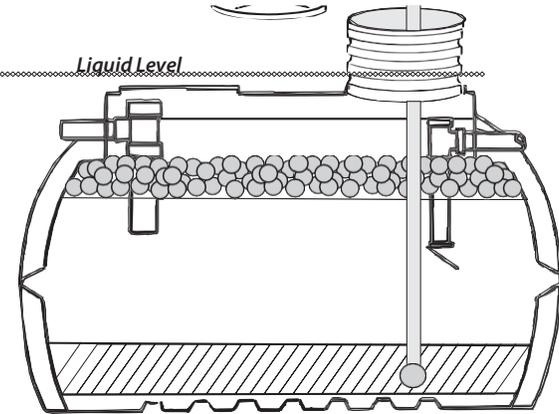
Step 1: Find the outlet access of your septic tank.

Access is at ground level:
Simply remove cover.

-or- Access is below ground:
Use a probe or shovel to find access.



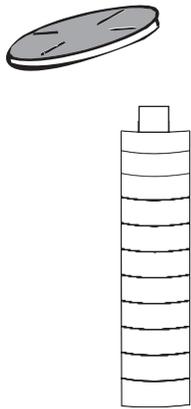
Step 2: Pump the tank down below
waterline or as needed.



Step 3: Remove filter cartridge and rinse over the access with a garden hose.



Step 4: Reinstall filter cartridge & lid.



SECTION 7: RESOURCES

7.1 AK INDUSTRIES

AK INDUSTRIES
2055 PIDCO DRIVE
P.O. BOX 640
PLYMOUTH, IN. 46563

PHONE: (574) 936-2542 • FAX: (574) 936-2298 • www.akindustries.com

7.2 LOCAL HEALTH DEPARTMENT

Your LHD can be found at...
<http://www.naccho.org/about/lhd/>

7.3 ENVIRONMENTAL PROTECTION AGENCY (EPA)

ENVIRONMENTAL PROTECTION AGENCY
U.S. EPA PUBLICATIONS CLEARINGHOUSE
P.O. BOX 42419
CINCINNATI, OH. 45241
<http://www.epa.gov/>



(317) 346-4110
www.drainagesolutionsinc.com

A.K. Industries, Inc. (AK), the manufacturer of this product, in accordance with designs and specifications contained in this brochure, as modified by any additions or changes expressly reflected on the AK invoice for the product purchased, warrants to the original Purchaser that such product (as defined below) will be free from defects in materials and workmanship for limited lifetime warranty from the date of purchase as evidenced by purchaser's proof of purchase; provided, however, that, notwithstanding any other term or provision of this limited warranty, and in accordance with the terms and conditions of the Contract of Purchase entered into between AK and Purchaser, the terms and conditions of which are hereby incorporated by reference as though fully set forth here verbatim, A.K. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, AND EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES, RELATING TO THE PRODUCTS DESIGN, INCLUDING IT FITNESS FOR ANY PARTICULAR PURPOSE. Purchaser shall mean the person for whom the product is originally manufactured. AK will repair or replace, in its sole discretion, any defects in materials or workmanship in the product, but specifically excluding any defects in the design or performance of any AK product for its particular or any other purpose, occurring in the limited lifetime warranty period.

AK'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE VALUE OF THE PRODUCT, AND IT SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES, LABOR, MATERIAL, FREIGHT OR OTHER EXPENSES REQUIRED IN REPLACING, CORRECTING, OR RE-INSTALLING THE PRODUCT, SUCH REPAIR OR REPLACEMENT SHALL BE THE ONLY REMEDY AVAILABLE TO THE PURCHASER UNDER THIS LIMITED WARRANTY.

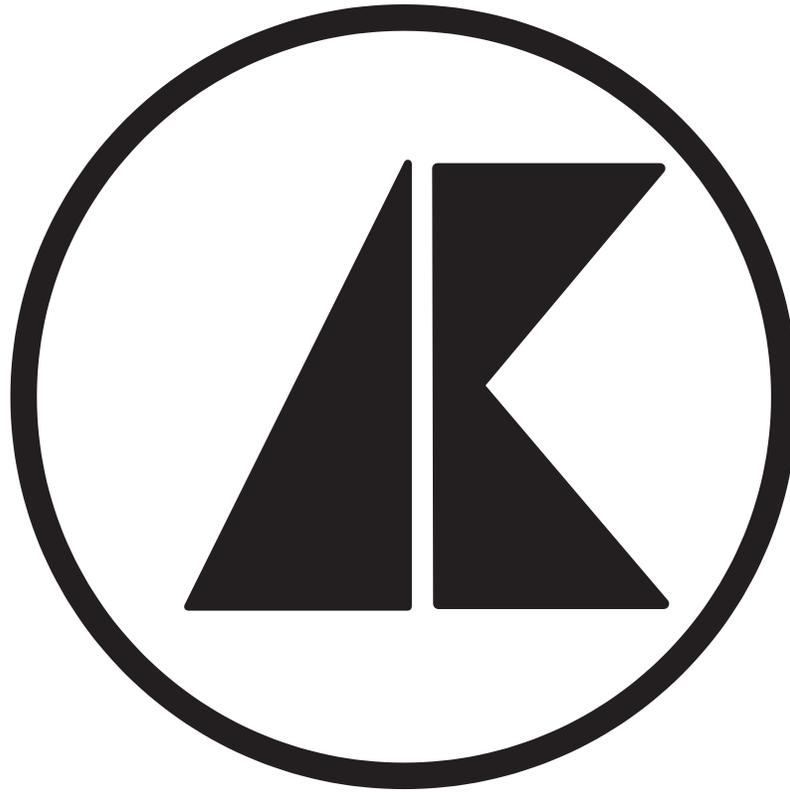
This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

THIS LIMITED WARRANTY IS MADE IN LIEU OF ANY OTHER EXPRESS WARRANTIES, FURTHERMORE, AK DISCLAIMS ANY IMPLIED WARRANTIES ARISING IN CONNECTION WITH THE SALE OF THIS PRODUCT, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

No employee, dealer, agent or other person is authorized to make any warranty or representation with respect to this product, other than is expressly contained herein.

IN NO EVENT SHALL AK BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

This limited lifetime warranty does not cover defects resulting from accidents, damage while in transit to our manufacturing location, alterations, unauthorized repair, failure to follow instructions, misuse or acts of God. Any claims arising under the foregoing must be reported to AK in writing and must be explicitly defined by the above parameters determining the validity of the warranty.



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