

REMEDICATION OF FAILED SEPTIC SYSTEMS

White Knight Microbial Inoculator Generator™

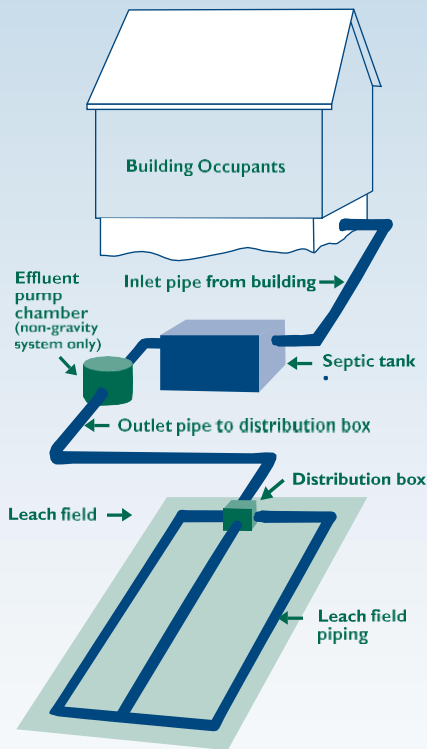


Problem

All residential septic systems have an average life expectancy of between 15 to 20 years, depending on the waste loads entering them. Septic systems can fail due to either mechanical problems or biological clogging of the leach field. Of the two, the majority of all failures are due to biological clogging.

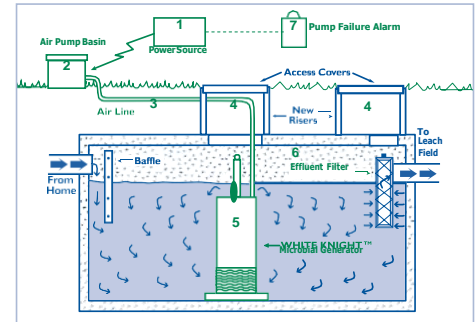
Solution

By converting the septic tank to an aerobically enhanced biological treatment vessel with the patented White Knight MIG™, selected bacteria are introduced, generated and released. The patented IOS-500™ bacterial matrix provides the select bacteria which consume the wastes entering the tank, this results in an effluent that is cleaner and enriched with these beneficial bacteria and oxygen. Carried out into the leach area by the effluent stream these select bacteria continue to consume the excess wastes that previously clogged the system.



White Knight MIG™ Treatment System

- 1 110/120 AC volt Power Source
- 2 Weatherproof Air Pump Basin used for outdoor air pump when required
- 3 Air line provides oxygen directly to White Knight MIG™
- 4 Septic tank service riser
- 5 White Knight Microbial Inoculator/Generator™ Model WK-40 installed directly in the septic tank for improved operation and ease of maintenance
- 6 Effluent outlet filter to retain non-biodegradable materials
- 7 Weatherproof enclosure with Pump Failure Alarm



What is biological clogging?



- 1 Biological clogging occurs over time because the excess waste builds up in the soil pore space creating a clogging condition in the leach field.
- 2 As the clogmat builds, the trenches fill with wastewater (i.e., effluent).
- 3 Eventually effluent from the septic tank cannot pass into the surrounding soil where aerobic bacteria can purify it, and the septic system fails. Noxious septic waste surfaces over the leach field or backs up into the home as a result of septic system failure.

Benefits

- Typically about 33 to 50% of the cost of an “in kind” replacement.
- May be 25% of the cost of an “up to code” replacement system
- Minimal disturbance and destruction of the landscape.
- Fecal Coliforms are significantly reduced and total Nitrogen is typically reduced about 50%.
- Effluent quality is dramatically improved with a BOD and TSS typically ranging between 50-90 mg/l which is primarily composed of the introduced microorganisms.
- Overall Carbon footprint is far less than a conventional system replacement making this an environmentally friendly green technology.
- Provides a permanent solution.
- Approved and accepted for use by state and local regulatory authorities.



White Knight Microbial Inoculator/Generator™

For Residential Applications



White Knight™ WK-40 Specifications

The White Knight MIG™ is an advanced bioremediation solution for onsite wastewater treatment systems and may also be used to enhance the capabilities of other treatment equipment. The unit is compact in size and easily fits into either new or sound existing septic system tanks. The WK-40 has been specifically designed to utilize the patented IOS-500™ bacterial matrix from International Organic Solutions. The bacteria matrix is introduced into the MIG, and the bacteria multiply rapidly and consume organic waste within the septic tank. Effluent leaves the septic tank along with the IOS-500™ specialized microbes and continue to consume deposited organic compounds, restoring soil particle pore space and natural drainage pathways.

Model Numbers and Typical Applications

WK-40 Residential applications

WK-78 Large residences and small commercial applications

WK-1xx Larger, custom designed or municipal applications

Treatment units specifications

Model #	Maximum recommended BOD loading (lbs./day)	Minimum Tank Size (gallons)	# of Media Towers	Size of Media Tower (dia" x height")	Minimum Air Pipe size	Recommended maximum number of bedrooms (Approx.)	Diffuser Air Flow (CFM)
WK-40	4	750	1	16" x 27.5"	1/2"	4	1
WK-78	6	1000	2	16" x 27.5"	3/4"	6	2
WK-xxx	varies	varies	varies	16" x 44"	3/4"	varies	varies

Air supply specifications

Model #	Output @ 2 psi (CFM)	Watts	Amps	Volts	Pump Dimensions	Basin Dimensions
WK-40	1.58	38	0.9	110/120	6.83" x 8.09" x 7.79"	13" H x 24" L x 16" W
WK-78	3.2	92	2.1	110/120	8.94" x 7.05" x 8.59"	13" H x 24" L x 16" W
WK-xxx	Call for Specifications					

Controller specifications

Model #	Voltage	Amps Max	Failure Sensing	Alarm Type	Overload Protection (amps)	Switching
WK-40	110/120	8	Pressure drop +/- or float	Visual and Audible	8	Normal/ Silence only
WK-78	110/120	8	Pressure drop +/- or float	Visual and Audible	8	Normal/ Silence only
WK-xxx	110/120	varies	Pressure drop +/- or float	Visual and Audible	varies	Normal/ Silence only

DEALER INFORMATION

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Headquartered in Oswego, NY., Knight Treatment Systems, Inc. is the national supplier of the White Knight Microbial Inoculator Generator™, a patented emergent technology utilized for the enhanced biological treatment of wastewater and the recovery of organically clogged absorption systems. The White Knight MIG™ is available through and serviced by a network of factory authorized and trained onsite wastewater treatment professionals.

