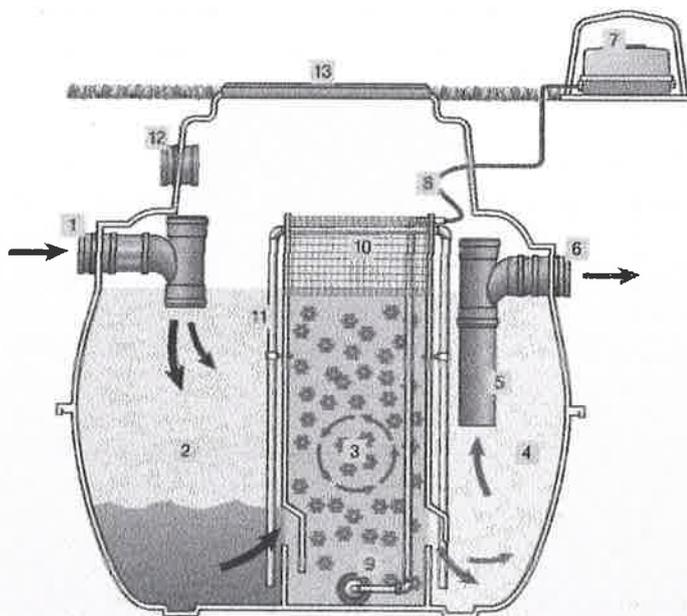
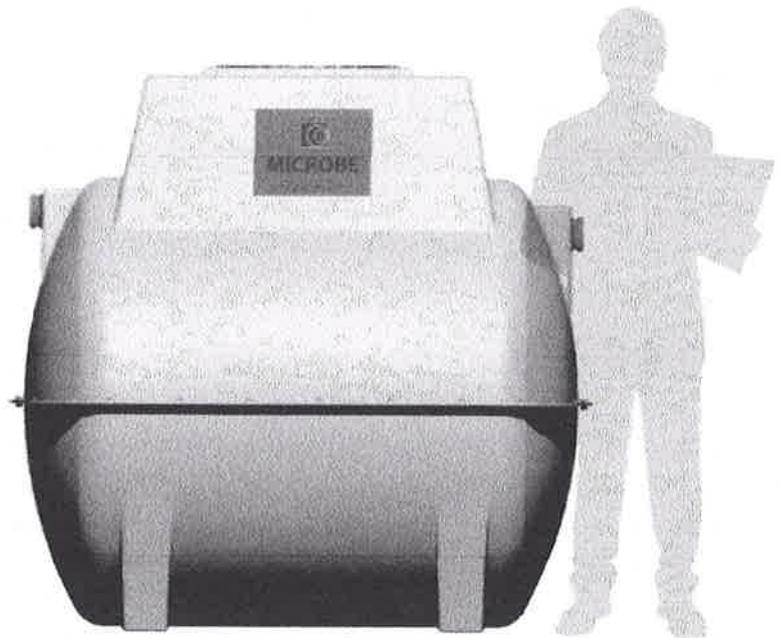


MARSH MICROBE > MINI SEWAGE TREATMENT PLANT

DESIGNED FOR LODGES, CARAVANS,
WORKSHOPS AND DOMESTIC
DWELLINGS UP TO 4 PEOPLE

Package Sewage Treatment Plant's (or PSTP's) are often a suitable option where groundwater in the surrounding environment is vulnerable, drainage field percolation values are restrictive, or direct discharge to watercourse or surface water sewer is the preferred discharge method.

In addition to the anaerobic digestion taking place in the primary settlement tank (as septic tanks) the Microbe unit allows the clarified water to pass into a second 'aeration' chamber where it is treated to remove the dissolved constituents. Here aerobic bacteria, supported by diffused air and mobile media, ensure full treatment is achieved before the treated effluent (and 'sloughed off' bacteria) flow to a final settlement chamber prior to discharge.



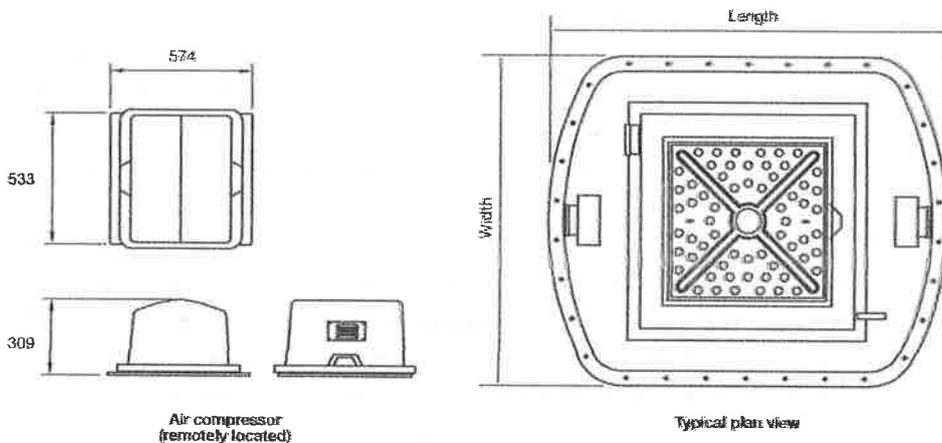
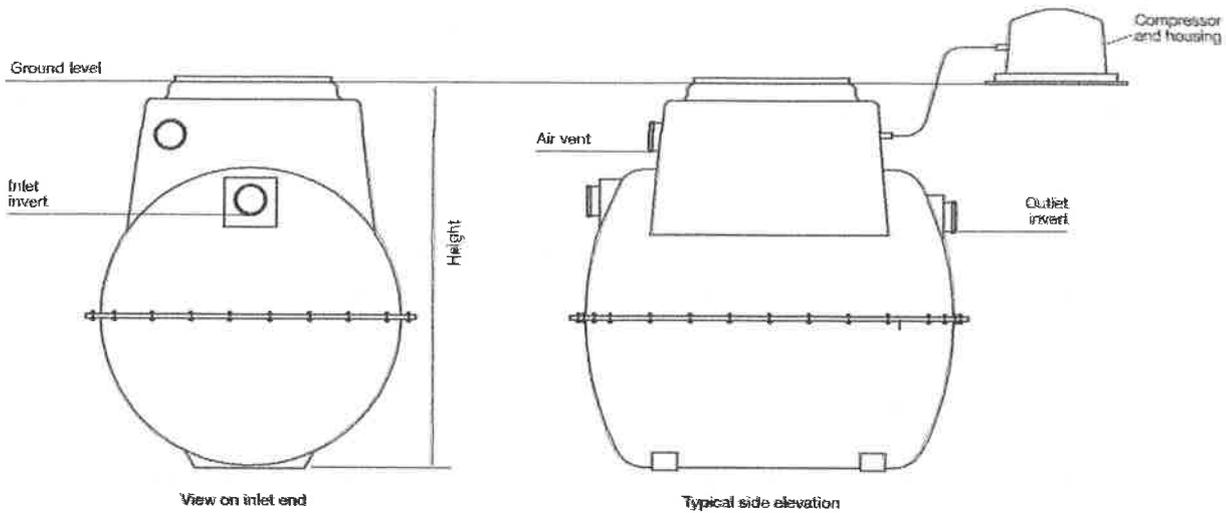
KEY

- | | |
|------------------------------|-------------------------------------|
| 1 Inlet | 8 Air diffuser feed pipeline |
| 2 Primary chamber | 9 Diffuser |
| 3 Aeration chamber | 10 Media retention mesh |
| 4 Final (or 'humus') chamber | 11 Recirculation to primary chamber |
| 5 Scum baffle | 12 Air vent |
| 6 Outlet | 13 Manway access |
| 7 Compressor and housing | |

MICROBE BENEFITS

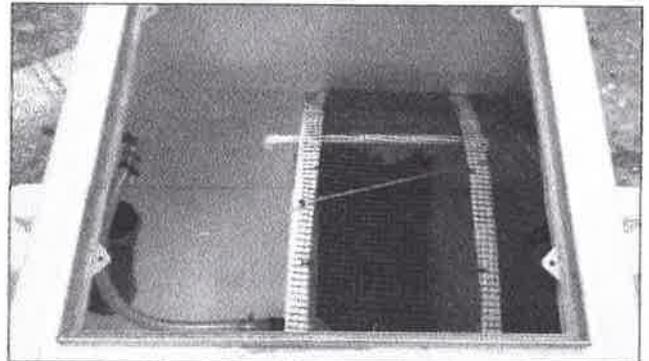
- > As with Marsh's larger Ensign range, the Microbe is designed to BSEN12566:3 to comply with latest environmental and Building Regulations requirements*
- > Minimum effluent quality of 20:30:20 (BOD:SS:NH₄⁺) ensures discharges are within national consent standards
- > Compact design for ease of handling, access and installation enables suitability for all site conditions including bedrock or high water table
- > Low energy compressor ensures minimal running, maintenance and servicing costs
- > Internal recirculation (from final to primary chamber) continues treatment process to provide higher effluent quality whilst balancing flow over 24 hour period or periods of intermittent use
- > Unique 'keying-in' lip to assist anchoring into granular or concrete surround
- > Optional extras include patented Polylok filter to further reduce suspended solids and extend life of drainage field; extensions for deep installations; pumped outlets for sites with adverse levels; and many more

DOCUMENT ref EWH 2



MICROBE SPECIFICATIONS

Model	Length	Width	Height	Inlet		Outlet	
				Invert	Ø	Invert	Ø
Microbe 4PE	1600	1332	1575	540	110	600	110



View through access manway showing primary, aeration and final settlement chambers

NOTES

- > PSTP's should be sized using the latest version of British Water Flows & Loads which provides detailed information on sewage production figures and sizing calculations
- > Regulatory authorities for the control of pollution in the UK normally require treatment plants conforming to BSEN12566:3 to be demonstrated as capable of producing a minimum effluent discharge quality of 20:30:20 (Biochemical Oxygen Demand:Suspended Solids:Ammoniacal Nitrogen in mg/ltr), although in certain areas more stringent site-specific qualities may be required
- > No surface water should enter the system as this can reduce the system's capacity and cause solids to be flushed out which may prematurely block drainage field or cause pollution
- > As with septic tanks sludge should be removed annually or in line with manufacturers instructions

Document ref EWH 3

MARSH INDUSTRIES

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LEADERS IN OFF-MAINS DRAINAGE