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Excellent Treatment

0845 375 1801
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SITING AND INSTALLATION CONSIDERATIONS FOR BioDisc® Units BA – BG & NITRIFICATION VERSIONS



INTRODUCTION

BioDisc units in this range are single piece, self contained units. They are compact, minimising both installation costs and the area of land required. Units are fitted with lockable low profile covers to reduce visual impact.

Each BioDisc incorporates Klargester's patented Managed Flow System, which is designed to attenuate shock loads and provide a stable flow regime, enabling the plant to achieve a consistently high degree of treatment.

The mechanical simplicity of the system ensures extremely low running and maintenance costs. Gravity flow is achieved through the plant, avoiding the use of additional lift pumps or compressors.

BioDisc units are supplied with a free standing weatherproof control panel. An optional warning device is available to activate an alarm if the rotor stops turning for any reason other than a general power failure.

All units can be supplied for single phase or three phase operation, and for the sites with the benefit of a three-phase power supply, there will be no extra cost for the appropriate motor. In these cases, it is recommended that three-phase operation is selected.

APPLICATION

Selection of the appropriate sized unit requires each application to be assessed as to the expected daily sewage volume, flow and pollutant load.

A BA unit is suitable for 1 domestic household only, with a maximum occupancy of 6. A BB unit is suitable for a maximum of 2 domestic households, up to 12 persons.

BioDisc units are designed to treat domestic sewage and waste water only. All surface water must be excluded. Trade waste, chemical toilet waste etc. must not be allowed to enter the unit. Excess chemicals should not be allowed to enter the unit as the biological process may be affected.

Where the sewage results from commercial premises, the sewage content and strength, together with any toxic inputs must be assessed. Sewage arising wholly or partly from any commercial function requires special consideration; please contact Klargester for specific advice.

Where any degree of commercial catering occurs, a suitably sized grease trap must be installed and maintained, to protect the plant from the effects of grease, oils and fats.

The use of waste disposal units should be avoided whenever possible. If they are used, the size of plant selected may need to be increased to cope with the extra load.

PUMPING

Pumping systems are available to pump crude sewage into, or treated effluent out of the plant, for situations where it is not possible to achieve gravity flow through the drainage system. Pumping to the plant may reduce the amount of civil work required. Please contact us for equipment selection and installation suggestions.

BA and BB units may, at your option, include an integral pump and chamber to pump out the treated effluent. High-level alarms should be purchased for use with these units.

Sample chambers are recommended for all installations.

EFFLUENT QUALITY

B range BioDisc units are configured to produce a final effluent containing not more than 20 mg/l BOD⁵, 30 mg/l Suspended Solids (SS) and 20 mg/l of Ammoniacal Nitrogen on domestic waste. N range units are configured to achieve the same BOD and SS, but providing Ammoniacal Nitrogen of 5 mg/l. Your quotation will indicate the effluent quality guaranteed, based on your declared daily sewage loading.

Discharge may be to a watercourse or soakaway, subject to the consent of the Environment Agency (England and Wales), the Scottish Environmental Protection Agency, or local authority Public Health Department (Northern and Southern Ireland).

Technical Data Sheet, TDS0001 provides detailed information and specific operational advice.

EQUIPMENT LOCATION

DETR Circular 3/99 Planning Requirements in Respect of the Use of Non Mains Sewage requires an independent assessment to be carried out before installation of the sewage treatment plant.

BioDisc units should be sited as far as practically possible from any habitable buildings. 7 metres is often considered to be the minimum legal requirement (BS 6297) and we would suggest

that the unit is located at the furthest distance possible. Access to hard standing should be provided within 10 metres of the unit to allow desludging and maintenance.

Please refer to the equipment drawing or technical data sheet for dimensions of unit, inlet depth and pipework orientation.

All BioDisc units have been designed to be installed into the ground.

Units should be sited so that the outlet is above the highest possible water level in the receiving watercourse and the rim of the cover stands at least 60-90mm proud of the local ground level.

Units should not be sited in areas liable to flooding, nor should they be recessed into the ground unless effective means are in place to prevent accumulation of ground water. Where discharge is into a receiving ditch or watercourse, you must site the unit and outfall at a height which ensures that there is no possibility of surcharging the plant. In certain circumstances it may be applicable to pump into or out of the plant, please contact Klargester for specific advice.

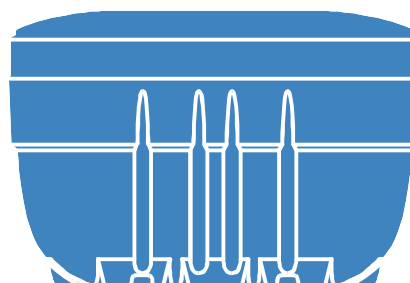
One metre of clear level ground should be provided all round the unit to assist maintenance. The covers have not been tested as suitable for pedestrian traffic and consideration should be given to site security where there is public access.

The unit must be adequately ventilated. Usually connection to the foul drain system with external open soil stacks is sufficient. The soil stacks should be sited in order to take advantage of the prevailing wind and local topography. A BioDisc should not be connected to properties where ventilation is solely by means of air admittance valves or tile vents.

BRIEF INSTALLATION NOTES

Each BioDisc is supplied with a set of Installation Guidelines which should be regarded as the minimum recommendations & reviewed in the light of specific site conditions. Should you require guidelines in advance of delivery, please request.

- As a general rule you should allow for a concrete bed or base of 150mm and a concrete backfill of 150mm.
- BA & BB/NB units should be backfilled with concrete.
- BioDisc units should only be lifted using webbing slings at the designated lifting points. A suitable spreader bar should be used to avoid compression damage to the unit. Lifting equipment should be selected with regard to the size and weight of the unit and the distance of lift required on site.
- In wet ground conditions it may be necessary to de-water the excavation during installation.
- Allowance should be made for supporting the sides of the excavation if necessary.
- An adequate water supply must be available so that the unit can be ballasted during installation. A tap located nearby to the plant is useful for maintenance.
- BioDisc units must be installed level.
- Control panels are supplied with pre-wired ducted cable for connection to the BioDisc. Power supply to the control panel should be minimum 1.5mm² SWA cable and use of a RCD and a separate isolating switch is recommended.



Klargester Environmental
College Road North, Aston Clinton, Aylesbury, Bucks, HP22 5EW
Tel: +44 (0) 1296 633033 ~ Fax +44 (0) 1296 633001
BioDisc® is the registered trademark of Klargester Environmental
<http://www.klargester.co.uk> ~ e-mail: uksales@klargester.co.uk

Manufacturing and distribution units also at:
Klargester Scotland: +44 (0) 1355 248484
Klargester Ireland: NI +44 (0) 28302 66799 ROI +44 (0) 48 302 66799

