



**Burnham Environmental
Services Limited**

INSTALLATION INSTRUCTIONS

BIODIGESTER SEWAGE TREATMENT PLANTS MODELS BONUS 55,70, 85 AND 100

The following instructions are submitted without obligation or prejudice. The installing contractor is responsible for the selection of the appropriate installation method.

1. CHECK LEVELS

Refer to the plant drawing. If invert levels have not already been established these should be checked and the depth of the treatment plant and access covers determined.

2. PEDESTRIAN DUTY ONLY

Biodigester sewage treatment plants are only suitable for pedestrian loads and should be installed accordingly. (If site conditions require greater loads please consult Burnham Environmental Services prior to order).

3. CHECK FOR DAMAGE

Check the treatment plant for any damage sustained in transit.

4. OFF-LOADING AND HANDLING

Always off-load and handle the treatment plant with extreme care. Do not place the plant on uneven ground or sharp stones.

5. WET OR DRY GROUND

Before you commence installation of the Biodigester, you must establish the water table at the intended location. This must be the depth of the winter (peak) water table. Once you ascertain its depth, select one of the two methods of installation details below – “Wet Ground” or “Dry Ground”.

If there is evidence of a high water table, at any time of year, it is essential to use the wet ground installation method. Please refer to the specific instructions contained in these notes. If in doubt details of your installation should be checked with a structural engineer or BES. Wet ground for the purposes of the installation of your Biodigester means that there is a possibility of the water table rising above the level of the base of your plant. **CHECK ALL LEVELS CAREFULLY BEFORE STARTING INSTALLATION.**

EXCAVATION

Refer to specific installation diagram for the particular Biodigester model and ground conditions. Excavate a hole to a depth of 200mm below the base level of the treatment plant. The hole is to have total dimensions 300mm greater than the dimensions of the Biodigester. Ensure the base of the hole is level.

BASE

The Biodigester must be positioned on a base of concrete to a minimum depth of 200mm. The unit must be placed in the wet concrete ensuring that the wet ground anchors are carefully worked into the concrete. Care must be taken to ensure that the concrete is supporting the entire exposed underside. In the case of a wet ground installation, the required amount of concrete, as specified in the appropriate datasheet, should then be used to cover the wet ground anchors.

POSITIONING

Check orientation of inlet and outlet pipes. Check levels and depths and that the top of the plant is level. Connect inlet and outlet pipes.

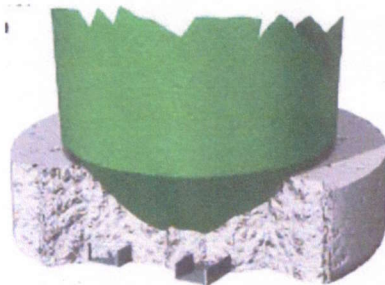
DRY GROUND – BACKFILLING

Fill the Biodigester with water.

Backfill around the Biodigester with '20mm to dust scalpings' to the required level. Alternatively any combination of concrete and scalpings can be used to backfill to the required level. It is not permissible to use a compactor or vibrator.

WET GROUND – BACKFILLING

Fill the Biodigester with water before commencing to ballast with concrete. Concrete is to be poured to the required quantity for each size. Take care to ensure that the wet ground anchors under the Biodigester are covered by a minimum of 250mm. You have the option to continue to inlet invert level with concrete or to use '20mm to dust scalpings'. The wet ground anchors **MUST** be covered as on the specifications. It is not permissible to use a compactor or vibrator.



CONCRETE REQUIRED

See specific diagram.

6. BIODIGESTER BONUS SLUDGE RETURN

The Biodigester Bonus sludge return is fitted with a 32mm / 1¼" BSP female threaded fitting. A hose tail, pipe clip and 10M of hose suitable for burying are also supplied. Connect at the final settlement tank end of the system and return the pipe to a manhole upstream of the primary settlement tank or into the upstream access shaft of the primary settlement tank.

7. SUBMERGED AERATED FILTER AND PLASTIC MEDIA

Make sure that the diffuser connections within the submerged aerated filter are all correct and the unions are hand tight. If the plastic media is not already in this chamber it should be added at this stage. Make sure all the diffuser taps are in the open position.

8. BLOWER HOUSING AND CONTROLS

Construct concrete pad with ducts for power and air lines as appropriate. This concrete pad for the housing should be installed so as to minimise the length of the air lines. Secure blower housing and feed air lines, power supply cable and sludge return pump power cable through ducts from the plant to the control housing. The ducts are essential to protect the air lines from damage and to allow eventual replacement. Connect the air lines onto the fittings supplied and secure with the jubilee clips provided.

9. ELECTRICITY SUPPLY

Connect the electricity supply to the connection point within the control panel. The cable required is 3 core armoured for single phase. (If a remote blower circuit alarm is to be used a four core cable is required or 2 separate cables). Connect power supply for sludge return pump. Refer to data for each plant size to determine power requirement and consequently cable diameter. When an alarm beacon is supplied this is low voltage and should be located in a position that will always remain visible.

10. TEST OPERATION

Once all the connections have been made test the operation of the Biodigester Bonus. When the power has been turned on the air blowers should run continuously with quite substantial agitation and movement of media within the treatment chamber/submerged aerated filter. The sludge return pump should also operate when the power is turned on and then switch off after completion of its set time period normally 2-3 minutes. The pump then operates automatically once per hour.

11. LOCK

Make sure the plant is kept locked.

12. PERFORMANCE BUILD UP

Once sewage is discharged into the plant, biomass will build up naturally on the high surface area of the ETA random pack media and suspended within the liquid. Peak performance will be achieved after about 6 weeks. If necessary humus sludge from an operational sewage treatment plant may be introduced to speed up the process. This is only required on very rare occasions. Consult supplier for advice.

27/2/08
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