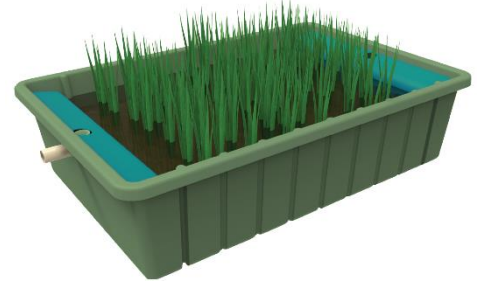


## Reed Bed Installation Instruction

Waste water treatment systems need to be designed by an **appropriately trained person** and must be **approved by your local council** before installation. Please ensure that an effluent disposal plan has been **submitted to and approved by your local council**. Site selection is very important, Please be guided by your waste water consultant or plumber as to the best site for your waste water disposal area, the position of the reed bed and disposal area are crucial to the system working well. If more than one bed is used it is best to install the reed beds in series if possible.



An assembled reed bed tub will weigh approx. 315 Kgs, care must be taken when moving them. Use an excavator or backhoe with lifting straps to place the reed bed in situ.

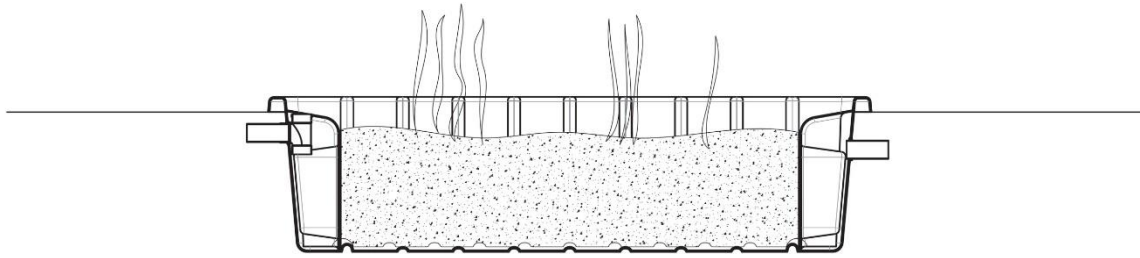
### Onsite Assembly

The Ubi Aqua reed bed is factory prepared for assembly to make the onsite installation as easy as possible.

1. The distribution bulkheads (or Baffles) need to be installed at either end of the bed, you will note that holes have been drilled in the ends of the tub to screw hex head screws (Type 17- Flanged Stainless Hex 50 x 10) into the back of the bulkhead. Note 6 required in each end 12 in total.
2. Place the bulkheads so that they are hard up against the end wall and drive the hex screws home.
3. The 121mm hole for the 100mm pipe and Wallace seal can then be drilled at the appropriate height for the inlet and outlet as per your design, the 100mm pipe can then be inserted into the Wallace seal using a pipe lubricate or silicone grease.
4. Please ensure that the lubricant used is not a petrochemical based lubricant.

### Reed Bed Ground Work Instructions

1. Using an excavator or backhoe, excavate the hole in which the reed bed tubs are to be installed, do not over excavate.
2. When excavating for the reed bed, the finished size of the excavation should be approx. 100mm larger that the unit each way and the invert of the excavation should be 75mm below the level that the tub will sit.
3. Ensure that there are no rocks or tree roots protruding into the excavation.
4. Install a level base of 10mm gravel, 75mm thick for the tub to sit on.
5. The reed bed should be installed so that the sides are supported. Following the evacuation of the site the sides of the reed bed needs to be support from base up the side of the bed to a minimum of at least 650mm.
6. The top roll of the reed bed should protrude above the finished ground level on all sides of the reed bed by at least 100mm and no more than 350mm.
7. If your design requires the tub to be in a position that exposes the side of the tub, a retaining wall of suitable size to hold the tub without stress will need to be constructed. 10mm gravel can be used to backfill the void between the excavation and the side of the tub to support the tub wall.



## Stone Media instructions

1. The size and type of media to fill the reed bed will be prescribed by the system designer.
2. Care should be taken when placing the gravel to ensure that the tub is not damaged or stressed by uneven filling, ensure that you fill both the inside of the tub and the outside between the wall of the tub and the side of the excavation in layers of approximately 200mm.
3. In most cases large Gravel or rail ballast should be placed at the entry and exits points of the reed bed to enhance the distribution of wastewater into and out of the reed bed.
4. The gravel used in the bulk of the reed bed should have a diameter of 10 – 20 mm.

**Note; The sides of the bed need to be supported by backfilling between the excavation and the reed bed with 10mm gravel as you fill the bulk of the gravel inside the reed bed.**

**If two tubs are to be installed, they are generally installed only 1M apart and at the same level.**

## Commissioning of Reed Bed

1. On completing the gravel install there are two tasks which need to be completed before the units are commissioned.
2. The area between the distribution bulkheads and the side wall of the reed bed could allow access to ponded water in which mosquitos and insects could breed.
3. To stop this, we need to fill that area with 5-10mm gravel to eliminate access to the water.
4. The other task is similar in that it precludes insects from the water stored behind the bulkhead. To do this you will apply a silicone bead to the intersection between the tub wall and the bulkhead.
5. Please ensure the lids are in place and turned to the "Closed" position.
6. The Designer of your system will stipulate which reeds/plants should be planted to suit the local environment and at what spacing's they should be planted, the planting should be completed as the system is about to be commissioned into use.

**A sign warning of the presence of waste water MUST be installed to warn people of the danger of waste water.**

**Please ensure that Children do not have access to and play on the reed beds.**