

BioBed System Kits



BIOBED SYSTEM KITS

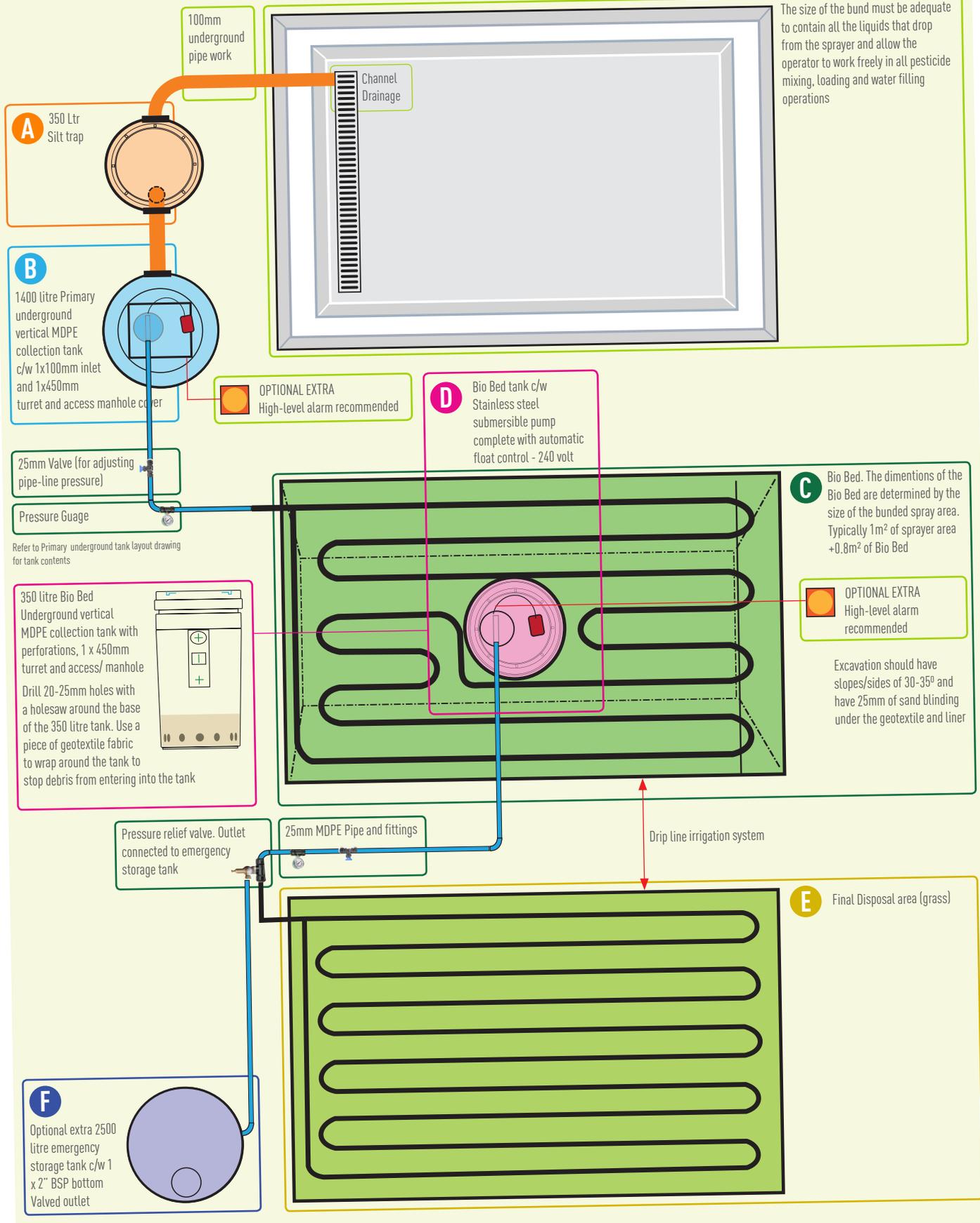
Different colours for identifying the different Kits - See drawing opposite. For full kit prices, please call us on 01553 819590.

Kit A and the corresponding colour relates to 'A' on the drawing

Kit	Product	Description	Code	Price
A	 Silt Trap Kit	1x 350 litre MDPE silt trap 1x 450mm access frame and cover 2x DN100 rubber pipe seals for pipe work connection	7050	
B	 Primary Collection Tank Kit	1x 1400 litre MDPE primary collection tank 1x 450mm access frame and cover 1x DN100 rubber pipe seal for pipe work connection 1x 240 volt stainless steel submersible pump c/w auto float control 1x set of 25mm (1") BSP pipe, valves, tank adaptor, non return valve, pressure relief valve and inline filter	7052	
C	 BioBed Liner and Geotextile System Kit (part1)	Geotextile membrane Synthetic BioBed liner	7054	Per Mtr ²
	 BioBed dripline system kit (part2)	16mm dripline irrigation pipe with auto drippers Set of 16mm dripline clips, joiners and adaptors and ground stakes included Pressure relief valve and 25mm pipe and fittings	7060	
D	 BioBed secondary collection tank kit	1x 350 litre MDPE silt trap 1x 450mm access frame and cover 1x 25mm x 25m blue MDPE pipe 1x 240V stainless steel submersible pump c/w auto float control 1x tank pipe and fittings	7070	
E	 Dripline Irrigation Kit	16mm x 100m dripline irrigation pipe with auto drippers Set of 16mm dripline caps, joiners, adaptors and ground stakes 25mm x 25m blue MDPE pipe	7068	

Images shown above are not to scale and are for illustrative purposes only.

Kit	Optional Extras	Product	Description	Code	Price
F		Above Ground Storage Tank	Strong, durable MDPE tank construction. WRAS approved. UV stabilised. Ribbed sides for extra strength. Strong lid structure. Positive tie down points. Standard colour: black, but other colours available: clear, dark green, green translucent. Heavy duty for a longer life span. Additional outlets and outlet sizes available.	6136	
F		Tank Alarm Kit	Battery operated tank alarm comes with 5m float cable, tank plate and warning light.	6729	



PLAN VIEW OF BIOBED SYSTEM KITS (Not to scale)

BIO FILTERS AND BIOBEDS

What's the problem?

Pesticides reaching water can harm aquatic life and affect drinking water supplies resulting in water companies having to treat drinking water, which in turn leads to pressure for further regulation and controls on their use. If farmers and growers want to continue to have access to a range of pesticides without further regulation then standards of handling and application need to continue to improve.

Why do pesticide handling areas matter?

Case studies at farm level have shown that losses from pesticide handling areas can account for more than 80% of detections in a catchment; although at a national scale it is thought that 40% of pesticide detections come from the handling activities with the remaining 60% coming from the field through run-off and drain flow. Improving the pesticide handling area and managing the washings and wastes that come from pesticide handling is one relatively simple measure that can be taken to help keep pesticides out of water. Correct design and management can virtually eliminate this particular source of pesticides.

What is a pesticide handling area?

The pesticide handling area is the site where the sprayer is filled and is often the site used for sprayer washing, nozzle calibration, sprayer testing, maintenance and storage. Splashes and spills of pesticide that can occur during sprayer filling, as well as the larger quantities of liquid produced during sprayer cleaning can seriously harm water quality unless suitable measures are put in place to protect water.

What is a BioBed/BioFilter?

A BioBed is a mixture of peat free compost, soil and straw (BioMix) covered with turf that is placed in a lined pit. A BioFilter uses the same BioMix, but does not require turf and uses a series of IBCs (Intermediate Bulk Containers) instead of a pit. Liquids enter the BioMix within a BioBed or BioFilter from a bunded sprayer filling area either by gravity drain or pump, where they undergo bioremediation and are then drained from the BioBed or BioFilter. This liquid, with minimal pesticide residues, can be used for land irrigation or re-used e.g. for subsequent sprayer washing.

What is the BioMix?

The BioMix allows any pesticides within the liquid to cling or lock onto organic matter, particularly onto the straw. Some chemicals do this very rapidly. The bacteria within the soil and within the mix then slowly work to break down the pesticide residues, with the compost assisting a stabilised moisture content within the mix. The BioMix consists of 50% Straw, 25% Peat-free Compost and 25% Soil.

BioFilters

A BioBunkbed or BioBox, also known as a BioFilter, is a well suited system for undercover spray fill areas and smaller operations or where there is less than 15000 litres being passed through the system each year. The concept is the same as the BioBed system, but the Intermediate Bulk Containers (IBC's) or BioBoxes are used as the impermeable lining. A small pump is required to direct the liquid to the top container/ BioBox.

- Current fill areas can be adapted
- The BioFilter is built above ground
- Ideal for covered spray fill areas
- Easy to refresh BioMix once exhausted
- Small footprint
- Cheaper and easier to install than a BioBed



BioBeds

BioBeds work the same as a BioFilter but the BioMix is contained within a liner/ basin underground. This type of system is used in conjunction with outdoor spray fill areas. The benefit of BioBeds are that the size of the BioBed can be increased to suit larger operations etc. A BioBed is sized to provide sufficient BioMix to degrade the expected chemical loading. The basic specification is based on 1 metre square surface area per 1000 litres of liquid to be treated.

- Can be adapted to any shape
- Suitable for larger operations
- Out of sight

Whether you are intending to install a BioFilter or a BioBed system you will need to construct a bunded area for your sprayer. Your bunded area should be typically all spills, and washings etc. can be contained for treatment by a BioFilter or BioBed system. This typically is a concrete area with sides to create a bund. Typically the sides are 100mm high and incorporate a drain for all the spills etc. From the drain the washings are put through a silt trap to remove as much debris as possible. From the silt trap the washings then enter an underground primary collection tank typically no more than 1400 litres capacity. From here a submersible pump will then pump to either a BioFilter or a BioBed for treatment.

Typical dimensions required for pesticide mixing / handling areas

Sprayer Type	Overall Width (metres)	Overall Length (metres)
Self Propelled Sprayer	5	10
Trailed Sprayer	5	7
Mounted Sprayer	5	4

The size of the bunded handling area is a compromise between containment, minimising the volume of clean rainwater requiring treatment and maintaining the ability to work safely. The areas suggested will not allow for full boom unfolding. However, it is possible to modify the handling area for an indirect BioBed to enable the boom to be fully extended. Note that the Code of Practice for using Plant Protection Products recommends that boom spray out should normally be done in the field area previously sprayed.

For more information on our Bio Filters and Bio Beds:
www.BioBed.co.uk