

Green energy production from tomato plants.

A. Pearson and Sons are a major producer of tomatoes grown under glass at Alderley Edge. The year long growing of tomatoes has a by-product of 15 to 20 m³ of waste vegetation per day. This tomato plant waste is transported by a seepex open hopper pump of range BTM to an anaerobic digester designed, supplied and operated by Biotech Services Ltd. The resultant bio-methane, CO₂ and high nutrient fertilizer are used by the tomato grower to maximize production.

The starting situation

The first stage of the process is the introduction of the spent tomato plants in a suitable format for the micro-organisms to begin digestion. The plants need to be chopped to a small particle size, to present as large a surface area as possible to the micro-organisms, and then transported into the reception tank where digestion begins. In addition there are some tomatoes rejected from the grading process which are also used in the system.



seepex BTM range pump chops and transports tomato vines in a single step

The solution

The seepex pump was designed to take the spent tomato vines, chop them and pump the resultant slurry into the reception tank of the digester.

In order to chop and transport in a single piece of equipment an open hopper pump with integral knives from the seepex BTM pump range was used. It was engineered for the application with a very tight tolerance on the knife clearance to ensure effective cutting of the vines. A custom built hopper also ensures that the vines are carried to the knives by the auger in the pump.

The versatility of the pump is such that the waste tomatoes can also be fed into the digestion tank by the pump.

The benefit

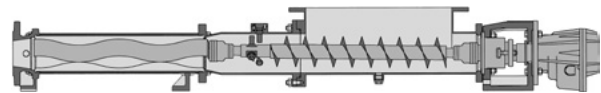
The customer can use one piece of equipment instead of the alternative of a macerator and pump combination. The vines are chopped to a particle size suitable for digestion to begin. The versatility of the system means that other waste streams can be chopped and pumped to the digestion system by the same piece of equipment.

Key Facts

- Chopping and transporting in a single pump
- Particle size reduction
- Versatility with different materials handling

Significant Cost Savings

- Lower capital costs



Installed Pump Type

- Range BTM

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