

## **BB2SJ Aquaponics Pilot Plant**

### **Phase 1 Part 4.**

### **Automatic Fish Feeder System**

Item	Scope of Work
4.0	<p>To produce working design for Automatic Fish Feeder suitable for BB2SJ Aquaponics Pilot Plant.</p> <p>Your design shall include followings:</p> <ul style="list-style-type: none"><li>• You may use Screw Conveyor Concept or any other design deemed suitable for the designated plant.</li><li>• Adjustable feeding volume.</li><li>• Adjustable real time feeding frequency.</li><li>• Backup electrical supply.</li><li>• Consideration for varying feed size.</li><li>• Fail safe maintenance/monitoring requirement.</li><li>• Material Inventory.</li></ul>
4.1	To present & obtain approval from officers on overall design
4.2	Procurement of material, construction, testing & commissioning of Automatic Fish Feeder.
4.3	To interact and liaising with other project team members to monitor & to propose improvement or modifications.

*\* Please refer to Master Program for timing of execution for each phase.*

*For reference:*

A **screw conveyor** or **auger conveyor** is a mechanism that uses a rotating helical [screw](#) blade, called a "*flighting*", usually within a tube, to move liquid or granular materials. They are used in many bulk handling industries. Screw conveyors in modern industry are often used horizontally or at a slight incline as an efficient way to move semi-solid materials, including food waste, wood chips, aggregates, [cereal grains](#), animal feed, boiler ash, meat and bone meal, [municipal solid waste](#), and many others. The first type of screw conveyor was the [Archimedes' screw](#), used since ancient times to pump irrigation water.

They usually consist of a trough or tube containing either a spiral blade coiled around a shaft, driven at one end and held at the other, or a "*shaftless spiral*", driven at one end and free at the other. The rate of volume transfer is proportional to the rotation rate of the shaft. In industrial control applications the device is often used as a [variable rate feeder](#) by varying the rotation rate of the shaft to deliver a measured rate or quantity of material into a process.

Screw conveyors can be operated with the flow of material inclined upward. When space allows, this is a very economical method of elevating and conveying. As the angle of inclination increases, the capacity of a given unit rapidly decreases.

