

# Flow Controller

## Flow Controller

### Overview

Computer controlled water treatment plants are not robust or sustainable in the Global South because of the lack of a reliable supply chain for specialized components and because of frequent power outages and surges. Five gravitationally powered plants researched and designed by AguaClara are currently operational in Honduras, but chemical dosing without electric pumps is still inconsistent at the plants. Alum (aluminum sulfate) dosing must be adjusted regularly because it depends on the influent turbidity, a function of season and rainfall. Chlorine dosing must be consistent, and both chlorine and alum doses must be easily controlled. Here we describe the research and development of an effective flow controller that can tie into AguaClara systems between the alum stock tank and the flocculator inlet at the rapid mix and between the chlorine stock tank and the system. The flow controller dampens the effect of the chemical level changes in the stock tanks, using a simple manufactured float valve to maintain a near-constant chemical level in the flow controller, which acts as a constant head tank. The height at which the outflow tubing from the flow controller connects to the system can be adjusted to change dosing flow. The flow controller is both inexpensive to produce and simple to operate.

*The Flow Controller delivers a calibrated and easily varied dose of soluble chemicals.*

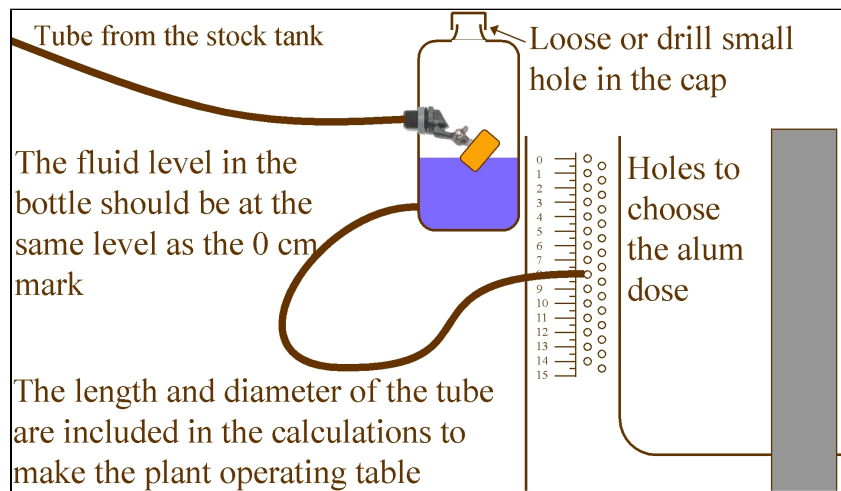
### Current Teams

[Linearization and Calibration](#)  
[Chlorine Precipitation](#)

**For more information** [Flow controller theory](#), a [flow controller design tool](#), and a [Flow controller parts list](#) are available.

The flow controllers are being used to [upgrade the hypochlorinators](#) that are traditionally used in Honduras.

### Flow controller schematic



### Flow controller hypochlorinators in use in Honduras



Results of a flow controller test in Marcala, La Paz, Honduras

[Marcala FC Test.doc](#)