

WATER CHLORINATOR • TOOLS THAT EMPOWER COMMUNITIES

According to the World Health Organization, **no interventions have a greater impact upon public health than the provision of safe drinking water** and proper sanitation. The treatment of drinking water through chlorination, first introduced in the early 20th century, was a major advance in human health. However, in many developing countries, the rural poor drink untreated water polluted with disease-causing pathogens, leading to water-borne illnesses and death.



CTI-8 CHLORINATOR

The **CTI-8 Chlorinator** is an inexpensive, low-maintenance water disinfectant system designed for rural areas with a gravity supply of water. It utilizes chlorine tablets, which cost pennies per day, to deliver a controlled dosage of chlorine sufficient to inactivate most pathogens found in rural water systems.

The chlorinator can be built in-country with local materials and installed within a few hours for about \$100. CTI-8 units are maintained by locals who have been trained to test chlorination levels and replace chlorine tablets.



Water Sources

- Designed for rural areas w/gravity fed water systems w/a flow rate between 2 and 20 gallons per minute
- Will treat water systems serving a population of approximately 100-1,000 people
- Requires a clean water source with little organic material:
 - A closed system from the water source to the end user
 - With an open system, the system must have a functioning filtration system, sedimentation system, or both.
- Turbidity levels should be less than 10 units

Materials Needed

- CTI-8 chlorinator plans, instructions, & training
- PVC piping, T-joints, cap, & PVC pipe adhesive
- Ball valves

Disinfectant used

- Chlorine tablets (Calcium hypochlorite or Trichloro-s-triazinetrione – It's important to note that the tablets must be approved for human consumption)

Testing and Recordkeeping Requirements

- Community member water committee
- Regular monitoring by someone trained in its operation
- Take measurements of chlorine levels with an approved chlorine comparator at the holding tank and at least 1 other point in the distribution system. Measurements must be taken 3-4 times per week initially and at least 1 time per week ongoing
- An ongoing fund for chlorine tablets, upkeep, repairs, and monitoring



In rural Nicaragua, two-thirds of communities don't have safe drinking water. Since 2002, CTI has been placing CTI-8 units in rural regions of Central Nicaragua. The units are maintained by locals who are trained to test the water's chlorination level and replace the chlorine tablets. CTI-8s are installed and operating in dozens of villages, providing potable water to more than 60,000 Nicaraguans. Community water groups maintain the appropriate chlorine levels and pool their resources to pay for chlorine tablets. Involving village groups fosters local ownership of the equipment, an important part of ensuring the program's sustainability. Through a partnership with nonprofit EOS International, we are expanding the program into additional regions of Nicaragua expect to help over 200,000 people gain access to clean water by 2013.

For 30 years, Compatible Technology International (CTI) has been creating practical food and water tools for the developing world.