

## Users

Typical users are hospitals, dispensaries and NGOs but also small businesses like butcher shops, cleaners, dairies, etc...

Antenna HCD allows public medical clinics/centers to comply with public health requirements. Antenna HCD also enables small settlements or villages to treat their own water for safe drinking.

## Safety requirements

The concentrated disinfectant solution, as well as operating equipment, should be kept out of reach of children. The production of the solution requires a well-aerated room. The concentrated solution must not be swallowed nor should it get in contact with the skin, eyes or mucous membranes.

Caution: the metal parts of Antenna HCD are made of titanium with a special coating. **Any copy made of lesser material would be hazardous and should be strongly discouraged.**

## Antenna HCD® PROVIDES A COMPLETE SOLUTION !

**Economical:** The device costs around 150€. The cost of one litre of concentrated solution is less than 0.01 €.

**Simple and robust:** Since the equipment has no mobile parts, it is shock and corrosion proof.

**Portable:** Pocket size.

**Durable:** The useful time of Antenna HCD exceeds 10'000 hours.

## ABOUT ANTENNA TECHNOLOGIES

Founded in 1989, **Antenna Technologies** is a non-profit association of scientists **specialized in the fields of nutrition, health and water.** It develops and implements **new technologies** adapted to the needs of deprived populations, whilst supporting a **pragmatic approach of development.** It is financed by foundations, private donators and institutional funds.

# Antenna HCD®

(Handy Chlorinator Device)

The right solution for disinfecting and making water drinkable



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# Antenna HCD<sup>®</sup>

## Making of disinfectant on the spot

Antenna HCD (Handy Chlorinator Device) is a compact and economical kit that makes it possible to produce an extremely powerful chlorinated disinfectant in situ.

Chlorine (i.e. hypochlorous acid) is an extremely effective disinfectant, which has been used as such for more than a century world-wide. But since chlorine solutions are unstable, its use implied the production of the solution on the site of its intended use, which was inconceivable without significant financial investment.

**With ANTENNA HCD (Handy Chlorinator Device), it is now possible to produce the disinfectant solution in a reliable and inexpensive manner, as well as in substantial quantities.**

## Disinfecting properties of hypochlorite

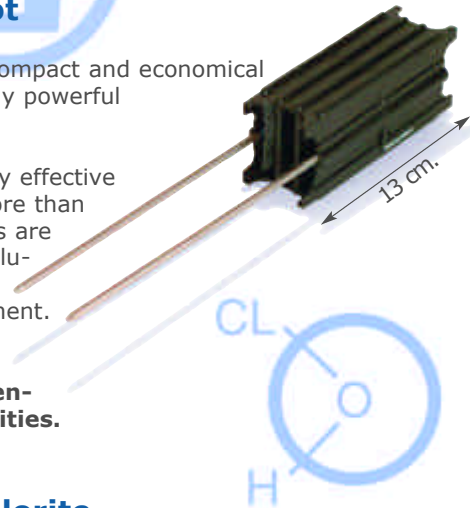
Chlorine is a unique product for disinfection, sterilisation and decontamination: **it efficiently kills viruses, bacteria and other micro organisms such as amoebas. It is also active on fungi as well as on bacterial or fungal spores.** Although it is easy to use, it requires nonetheless attention. The key elements to consider are the correct concentration and the exposure time.

## Antenna HCD<sup>®</sup>, A SIMPLE AND EFFICIENT DEVICE

### Make one litre of concentrate disinfectant in one hour!

The following items are required to produce one litre of solution containing 6000 mg/l of active chlorine.

- 1 litre water
- 25 grams of cooking salt (1 table-spoon)
- Electricity (12V@ 3A direct current for 1 hour)



## DISINFECTING INSTRUMENTS AND PREMISES

The solution produced with Antenna HCD should be diluted with twice its volume of water. The diluted solution is now ready to use for:

- Disinfecting instruments, machines and tools used for food contact.
- Cleaning and disinfecting of floors (sanitary premises, hospitals, food factories, restaurants,...)
- Disinfecting regular objects in hospitals (excluding chirurgical instruments, which should always be sterilised in a steam autoclave)
- Disinfection of furniture in hospitals and dispensaries
- Preliminary disinfection of textiles in hospitals (sheets, blouses)

## Chloration of drinking water

Drinking water is usually chlorinated in order to ensure a residual concentration of at least 1mg/l (WHO standards). This means that one litre of solution produced by Antenna HCD can treat several thousands litres of drinking water (**up to 6 m3 water under ideal conditions**). The treatment does not modify the mineral composition of the water.

As for all chlorination processes, the quantity of disinfectant solution required will have to be determined and adjusted using the level of residual chlorine in the treated water as main criterion. Standard methods for its dosage are simple and described in specialised publications, such as "Guidelines for Drinking-Water Quality", vol 1,2 & 3, WHO Geneva 1986".

**Antenna HCD can easily produce 10 litres of concentrated solution per day, i.e. one unit can treat several thousands litres of drinking water daily.**

