

MSR SE200™ Community Chlorine Maker

Health need

According to the World Health Organization, more than 700 million people still lack access to improved, safe sources of drinking water, and nearly half are in sub-Saharan Africa. Unsafe water contributes to diarrheal disease, one of the leading causes of preventable childhood deaths in the developing world.¹ Chlorine is a highly effective method for destroying waterborne disease and infection.² Unfortunately, chlorine supply chains in developing countries, especially in rural areas, are expensive and unreliable.

Technology solution

Producing chlorine locally with readily available ingredients is a low-cost and sustainable method to improve access to safe drinking water. PATH and Mountain Safety Research® (MSR) Global Health codeveloped a device that makes chlorine on demand with the push of a button. The MSR SE200™ Community Chlorine Maker (MSR SE200) requires only salt, water, and power—either mains electricity or a 12-volt vehicle battery—to generate a chlorine solution. A five-minute run cycle produces enough chlorine to treat up to 200 liters of water. The “smart” circuitry in the device ensures a consistent concentration of chlorine is always produced for accurate dosing. Simple icons and lights communicate low-salt and low-power issues to the user in order to support correct operation and maintenance. Numerous field trials in schools and health centers and with vendors and community water committees, demonstrated the MSR SE200 as easy to use and effective at making water free of diarrhea-causing microbes. The device and its components are portable and easy to set up at most water sources including water trucks, water kiosks, boreholes, and wells. On-demand chlorine availability eliminates chlorine supply chain problems and storage safety concerns, and lets users control the flow of safe water.

Current status and results

As of May 2015, the MSR SE200 is available for purchase through MSR Global Health. MSR, in collaboration with World Vision, is introducing the first 150 MSR SE200 Community Chlorine Maker products in Kenya and Mali, and PATH continues to seek funding to expand introduction and scale efforts. Currently, PATH and MSR and World Vision are developing a larger-capacity chlorine maker that could produce enough chlorine for drinking water treatment or infection prevention in health care settings, refugee camps, or for use during disaster response efforts.

MSR SE200 is a registered trademark of Mountain Safety Research, a Division of Cascade Designs, Inc.

1. United Nations Children's Fund (UNICEF). *Pneumonia and Diarrhea: Tackling the Deadliest Diseases for the World's Poorest Children*. New York, NY: UNICEF; 2012. Available at: http://www.unicef.org/eapro/Pneumonia_and_Diarrhoea_Report_2012.pdf. Accessed December 2015

2. World Health Organization (WHO). *Guidelines for Drinking-Water Quality*, 4th ed. Geneva, Switzerland: WHO; 2011. Available at: http://www.who.int/water_sanitation_health/publications/dwq_guidelines/en. Accessed December 2015



In 5 minutes, the MSR SE200 produces enough chlorine to treat up to 200 liters of water.

“Water and sanitation is one of the primary drivers of public health...once we can secure access to clean water and to adequate sanitation facilities for all people, irrespective of the difference in their living conditions, a huge battle against all kinds of diseases will be won.”

Dr. Lee Jong-wook,
Director-General, World Health Organization

Availability

MSR SE200 devices are available for purchase through:
Mountain Safety Research Global Health
4000 1st Avenue S
Seattle, WA 98134 USA
Tel: (206) 505-9500
<http://www.cascadedesigns.com/msr/global-health>

For more information regarding this project, contact Jesse Schubert at jschubert@path.org.

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