



CRANE

Testing Apparatus for Simulating Rain and Fog

Track Code: CRANE-101270

Categories:

- Materials and Manufacturing
- NSWC Crane

Keywords:

- Crane
- Environmental Engineering
- Materials and Manufacturing
- Testing

The U.S. Navy seeks a partner for licensing and collaboration on a rain and fog testing apparatus for use in testing lasers, laser accessories, and electro-optic devices such as cameras, thermal imagers, and other vision devices.

The military uses lasers and electro-optical equipment in the field and in conditions that cannot always be predicted. Weather and other environmental factors can change the way some equipment functions or even cause it to become irreparably damaged or nonfunctioning. Some of these factors include rain, fog, or other precipitation. It is necessary to be able to test laser and EO devices to determine how far they can penetrate through these conditions such as how well an image can be seen through rain or how much information a laser can transmit through fog.

Naval Surface Warfare Center, Crane Division (NSWC Crane) has developed a controlled rain and fog testing device that can simulate different environmental precipitation such as a light drizzle, a torrential downpour, or conditions in the middle. The testing device is scalable depending on the conditions and the equipment that needs to be tested. For very large testing ranges, the device operates on a body of water, which limits pollution or runoff problems. The nozzles create spray patterns through electro-mechanical screw type solenoids which allow for individual nozzles to be controlled independently. Other effects include using gravity to closely simulate falling rain, hot water heats for replicating fog, and pumps for mimicking torrential downpours.

People:

- Hamilton, John (Project leader)

Intellectual Property:

Application Date: (None)
Type: Utility Patent
Country of Filing: United States
Patent Number: 9,739,711
Issue Date: August 22, 2017

Application Date: (None)
Type: CIP-Patent
Country of Filing: United States
Patent Number: 9,739,712
Issue Date: August 22, 2017

Contact OTC:

Purdue Office of Technology Commercialization
The Convergence Center
101 Foundry Drive, Suite 2500
West Lafayette, IN 47906

Phone: (765) 588-3475
Fax: (765) 463-3486
Email: otcip@prf.org