

TechBriefs

Savannah River National Laboratory

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At a glance

- > 24% adjustable rate of condensation
- > Increased condensation rates
- > Allows user to make substantial adjustments
- > Removable second coil
- > Can be modified without interrupting system operation

Contact Information

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Double Coil Condenser Apparatus

A glass technologist at the Savannah River National Laboratory (SRNL) has developed a glass condenser apparatus that allows the user to adjust the rate of condensation during testing. The apparatus consists of a fixed condensing coil accompanied by a second, removable coil that fits inside the fixed coil. Tests have shown increases in condensation rates of up to 24 percent.

Background

Condensers are used in laboratory and industrial settings in order to extract liquid from a gas mixture. Typically, a condenser is employed for condensing vapor from a mixture of condensable and noncondensable gases. A typical condenser may include coils through which cold water is pumped. Heat transfer occurs when a warm gas mixture is passed over the cooler coils to result in condensation of one or more elements in the gas mixture.

Features

The performance of condensers in a system is typically controlled by adjusting the flow rate of water through the coils or by replacing the condenser with another configuration. The patented double coil condenser allows the user to make substantial adjustments where the maximum flow rate of a single coil does not produce the desired result. The second coil can be inserted or removed to achieve the desired condensation rate without interrupting system operation.

Technology transfer

SRNL is the U.S. Department of Energy's (DOE) applied research and development laboratory at the Savannah River Site (SRS). With its wide spectrum and expertise in areas such as homeland security, hydrogen technology, materials, sensors, and environmental science, SRNL's cutting edge technology delivers high dividends to its customers.



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The management and operating contractor for SRS and SRNL is Savannah River Nuclear Solutions, LLC. SRNS is responsible for transferring its technologies to the private sector so that these technologies may have the collateral benefit of enhancing U.S. economic competitiveness.

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Partnering opportunities

SRNS invites interested companies with proven capabilities in this area of expertise to develop commercial applications for this process or product under a cooperative research and development agreement or licensing agreement. Interested companies will be requested to submit a business plan setting forth company qualifications, strategies, activities, and milestones for commercializing this invention. Qualifications should include past experience at bringing similar products to market, reasonable schedule for product launch, sufficient manufacturing capacity, established distribution networks, and evidence of sufficient financial resources for product development and launch.

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