

ULTRA-LOW TEMPERATURE FREEZERS (ULT)

The AEP Ohio Efficient Products for Business Program announces the utility industry's first prescriptive energy efficiency incentives for ultra-low temperature freezers (ULT).

Use up to 75% less energy

When compared to standard compressor-based systems, the Stirling ULT freezer uses 70-75% less energy, generates less heat in conditioned building spaces and reduces operating costs. The main non-energy benefit is the elimination of the cascaded compressors standard in the industry.

History

In 1816, Robert Stirling was awarded a patent for "a new method, contrivance, or mechanical arrangements for heating and cooling liquids, air or gases, and other bodies, by the use of which contrivance heat is abstracted from one portion of such liquid, airs or gasses, and other bodies and communicated with another portion with very little loss, so that in all cases where a constant succession of heated liquids or other bodies is required, the quantity of fuel (energy) necessary to maintain or supply it is by this contrivance greatly diminished."

In 1834 the Stirling cycle was first used for cooling.

In 2011, Stirling Ultracold opened a facility in Athens, OH to continue the legacy of quality ultra-low freezer manufacturing already established in Southeastern Ohio. AEP Ohio encouraged Stirling Ultracold to pursue the energy efficiency benefits of their technology through a dialogue with the EPA regarding ENERGY STAR. The ENERGY STAR category had been established years ago, but was inactive since all existing cascade compressor designs did not qualify.

Protecting the environment

Stirling ULT freezers use 100% natural refrigerants and environmentally-friendly foam insulation. Their zero waste manufacturing process also helps reduce the company's manufacturing carbon footprint.

AEP Ohio energy efficiency incentives*

In order to promote adoption of the most energy efficient qualifying products, AEP Ohio has calculated a prescriptive incentive that can easily be earned by qualified customers.** Earn \$20 per cubic foot when installing a Stirling Ultra-low Temperature freezer.

Learn More

For more information, email AEP Ohio at aepohiosolutions@clearesult.com or call (877) 607-0740.



Image courtesy of www.stirlingultracold.com

Stirling Engine Ultra-Low Temperature Freezers

- Steady-state temperature variation
- Fastest initial pull-down
- Fastest door opening temperature recovery
- Slowest warm-up time

*This measure applies to freezers that are operated at temperatures between -75°F to -85°F. Freezers must be in conditioned spaces where temperature and humidity is controlled throughout the year. Incentives are for new Stirling engine refrigeration units and for replacement of compressor-based refrigeration units. Incentives are based on the nameplate volume (cu. ft.) of the units. Upright and under the counter units are eligible for incentives. Freezers must meet "Maximum Daily Energy Consumption (MDEC) Requirements (kWh/day) for ENERGY STAR Certified Laboratory Grade Freezers."

**Utilities interested in developing a fully evaluated ULT prescriptive measure can contact AEP Ohio.