



TECHNOLOGY

Stirling Subcooler Cycle

OVERVIEW

The challenge in refrigeration (and air conditioning, etc.) is to remove heat from a low temperature source and dump it at a higher temperature sink. Compression refrigeration cycles in general take advantage of the idea that highly compressed fluids at one temperature will get colder when allowed to expand.

An ideal refrigeration cycle looks much like a reversed Carnot heat engine or a reversed Rankine cycle heat engine. Liquefied fluid leaves the condenser and enters the expansion valve. This valve reduces the pressure level and meters the flow so that as much working fluid leaves the compressor as enters the evaporator.

By providing additional subcooling prior to the expansion valve Researchers at the University of Maryland have improved the refrigeration capacity of a vapor compression refrigerator cycle by 17% and the coefficient of performance by 6%.

For additional information regarding the technology and for licensing information please contact 301 405 3947 or by e-mail at otc@umd.edu.

CONTACT INFO

UM Ventures
0134 Lee Building
7809 Regents Drive
College Park, MD 20742
Email: umdtechtransfer@umd.edu
Phone: (301) 405-3947 | Fax: (301) 314-9502

Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Industrial Processing

EXTERNAL RESOURCES

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