

# Articmaster

## HVAC/Refrigeration Efficiency Device



### Intelligent Energy Efficiency

Relentlessly escalating energy costs and increasingly restrictive energy regulations are challenging innovative business leaders to seek intelligent energy efficiency solutions to protect their investments and maximize long-term bottom line success. Superior Energy Solutions consistently delivers extremely efficient cost-per-kWh products to the discerning decision-maker.

### The Articmaster: A Proven, Reliable Retrofit Device for HVAC & Refrigeration Units That Creates Efficiencies and Lengthens Equipment Life

The Articmaster is a unique solution that increases performance capabilities of most existing HVAC and Refrigeration equipment and enables dramatic reductions in energy consumption during normal operations. The Articmaster is American-designed, patented, and American-manufactured in an ISO 9001:2008 certified factory. It is currently distributed in the United States and 26 other countries. Installation sites include Military Bases, Data Centers, Cellular Sites, Restaurants, Factories, Cold Storage Warehouses, Auto Dealerships, and Universities.

### What Can You Expect When the Articmaster is installed?

- **Head Pressure Reduction.** When the Articmaster is installed on properly running and charged AC/R equipment, it *will reduce the delivery/head pressure of the system*, thus lowering the compressor's amperage draw and energy consumption.
- **Colder Refrigerant Temperature.** The head pressure reduction causes *colder refrigerant temperature*, which, in turn, produces colder air. The colder air then produces shorter system run times, again, reducing energy consumption.
- **Improved Heat Absorption at the Evaporator.** By increasing the difference in temperature between the medium being cooled (air or water) and the colder expanded refrigerant that is performing the actual cooling, *heat absorption at the evaporator is increased*. The Articmaster allows the condenser and the evaporator to work in concert, optimizing the refrigerant and creating higher efficiencies in the refrigeration cycle.



Reduces Head Pressure & Reduces Energy  
Colder Refrigerant & Colder Air Output

Efficiency Gain

16 – 20 %

Colder Air

20 %

Reduced Head Pressure

20 - 40 %

# Articmaster



## Overview

The **Articmaster** is a *passive condenser control device*. As a condenser control device, the Articmaster allows the AC/R equipment to operate at a higher efficiency by optimizing the heat rejection capabilities of the condenser. It also improves the heat absorption at the evaporator, making the AC/R equipment more efficient.

## The Articmaster is environmentally sound and advances your commitment to corporate citizenship through sustainability.

Not only does the Articmaster increase the life expectancy of existing equipment by reducing pressures, *the workings of the Articmaster are totally passive*, which means that it does not require electricity to operate, it does not require water to cool the refrigerant, and it does not require any control system or control device. Based upon system pressures, the system's condenser varies its heat rejection capability. The Articmaster adapts to the condenser's needs, thus making it passive. By allowing the condenser to adjust and remain closer to the most efficient band of temperatures and pressures, the efficiency of the refrigerant is improved. While passive, the Articmaster employs complex principles of fluid mechanics, thermodynamics, and heat transfer to optimize AC/R efficiencies and reduce energy consumption.

### Bottom Line Benefits

- Reduce energy bills
- Lower net operating costs
- Convert energy liabilities into business assets (Profit)
- Reduce carbon & greenhouse gas emissions & be prepared for future regulation conformity

### Smart Investments

- Articmaster provides one of the lowest cost-per-kWh of implementation in the energy efficiency industry
- Flexible technology allows for implementation on new or used HVAC/Refrigeration units
- Return on Investment ranges from 1-5 years in most cases

## What Clients Are Saying About The Articmaster

*"The Articmaster exceeded our expectations as we have realized energy reductions greater than 20%"*

- **Army National Guard  
Mississippi Division**

*"We were replacing 1-2 Compressors per-month in our data centers, but over the last year since the Articmaster has been installed, we haven't replaced a single one"*

- **Switch & Data**

*"Savings on 16 package units exceeded guaranteed savings and the ROI was outstanding"*

- **Lockheed Martin**

The Articmaster is manufactured in an ISO 9001: 2008 factory



American Society of Mechanical Engineers  
ASME is one of the oldest standards – developing organizations in the world with approximately 600 codes & standards



**ASHRAE**  
Advancing HVAC&R to serve humanity  
and promote a sustainable world



**Underwriters  
Laboratories**

UL is a leading product safety certification organization. UL evaluates over 19,000 products, components, materials and systems annually