



HYDROCARBON

ENERGY EFFICIENCY • PERFORMANCE • SAVINGS

HYDROCARBON (HC) REFRIGERANTS ARE NATURAL, NONTOXIC REFRIGERANTS



HYDROCARBON

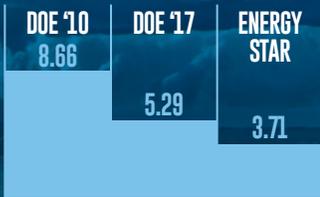


SAVINGS WITH R290

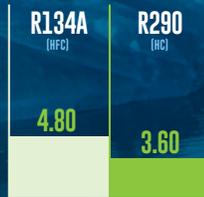
Compared to the HFC equivalent model.

*ENERGY COST SAVINGS BASED ON \$0.10 PER KW/H

MAX. ENERGY KWH/DAY



TRUE'S UNIT



25% REDUCTION
IN ENERGY USAGE

\$43.80 ENERGY COST
SAVINGS PER YEAR*

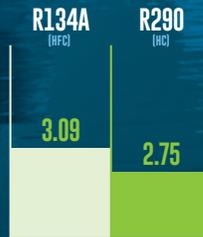
GDM-49-HC-TSL01



MAX. ENERGY KWH/DAY



TRUE'S UNIT



11% REDUCTION
IN ENERGY USAGE

\$12.41 ENERGY COST
SAVINGS PER YEAR*

T-49-HC



MAX. ENERGY KWH/DAY



TRUE'S UNIT



34% REDUCTION
IN ENERGY USAGE

\$41.98 ENERGY COST
SAVINGS PER YEAR*

STR2R-2S-HC



MAX. ENERGY KWH/DAY



TRUE'S UNIT



63% REDUCTION
IN ENERGY USAGE

\$37.23 ENERGY COST
SAVINGS PER YEAR*

TUC-24-HC



THE WORLD IS CHANGING

With growing concerns about climate change and the atmosphere taking on more and more hazardous emissions, industries are looking to alternative refrigerants as part of the solution. Hydrocarbon refrigerant is the next step towards better refrigeration and environmental responsibility.

WHAT IS HYDROCARBON REFRIGERANT?

Hydrocarbon (HC) refrigerants are natural, nontoxic refrigerants that have no ozone depleting properties and low global warming potential. Hydrocarbons are one of the most climate-friendly and cost-effective refrigerants to cool and freeze.

R290 (HC) refrigerant is highly refined propane that is a safe, environmentally friendly replacement for the hydrofluorocarbon (HFC) refrigerants R134a in refrigerator applications and R404a in freezer applications.

MARKET DEMAND IS CHANGING

- Over 2 billion HC refrigerators and freezers are used in homes worldwide.
- 20+ years of HC adoption in Europe with over 4 million commercial units in use.
- More and more companies are choosing HC in the U.S. and around the world as they look to meet corporate sustainability objectives.

REGULATIONS ARE CHANGING

- In 2011, the EPA approved R290 refrigerants for use in commercial applications in the United States.
- The UL 471 and ANSI/AHRAE 15-2013/34-2013 have established standards for the design and use of R290 self-contained refrigeration units in commercial buildings in the United States.
- The Department of Energy (DOE) issued new mandatory energy usage regulations which began on March 27, 2017. These regulations call for a 40-60% reduction in energy consumption from past DOE regulations. Manufacturers must comply with these regulations in order to legally sell their equipment in the United States.



WHY IS HYDROCARBON REFRIGERANT BETTER?

- Current HFC Refrigerants (R134a and R404a) have extremely high **Global Warming Potential (GWP)** that is harmful to the environment. GWP is the relative measure of how much heat a greenhouse gas traps in the atmosphere. The lower the GWP the better a substance is for the environment. By comparison, R290 Hydrocarbon has a very minimal GWP.
- R290's thermodynamic properties are superior to both R134a and R404a. R290's **heat capacitance** is approximately 90% greater than R134a and 140% greater than R404a with lower viscosity. This means that the R290 can absorb more heat, faster, resulting in quicker temperature recovery and lower energy consumption.

GLOBAL WARMING POTENTIAL OF REFRIGERANTS

3922	1490	3
R404A (HFC)	R134A (HFC)	R290 (HC)



natural
refrigerant.®

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True
REFRIGERATION®

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MAKING YOUR WORLD COOLER®

