Adaptive Frequency™ Drive Upgrades

For Series R, Model RTHD Chillers

TRANE TECHNOLOGIES

Your Series RTM chiller, model RTHD can become 15–25% more energy efficient

Give your RTHD chiller the ability to work smarter by applying the latest drive technology.

The Trane Adaptive Frequency™ drive (AFDR) upgrade enables your chiller to operate more efficiently through its full range of operation. This means overall energy savings and lower utility bills.

This RTHD chiller upgrade incorporates the same advanced technology built into new Trane Optimus™ chillers, including the most recent generation of the Tracer AdaptiView™ control platform.

Quick payback, lower total cost of ownership

The Trane AFDR has a favorable payback of one to three years when properly applied. Local energy costs and availability of utility incentives can further increase savings by offsetting installation costs. This tactical investment will help to lower your building's overall operational expenses.

Who has the most potential for energy savings?

High-occupancy buildings such as schools, hospitals, hotels and commercial office buildings. These are the typical patterns to look for:

- Run for many hours at part load
- Have frequent start/stop routines
- Are noisy at light load
- Are oversized for their current application and run frequently at part load
- Are single chillers where chiller staging is not an option

Energy savings can be significant

For most commercial buildings, the single largest energy user is the chilled water system. The AFDR allows the chiller compressor to adjust to demand, maintaining efficiency at part load conditions (with available condenser relief). Application part load value (APLV) can be increased by 10–25%.

Typical energy savings by region

Chiller % Savings	Location
22%	Albany
19%	Atlanta
25%	Boise
20%	Chicago
26%	Denver
26%	San Francisco

Results shown for commercial office space using the Trane Option Analyzer

Drive performance leads to occupant comfort

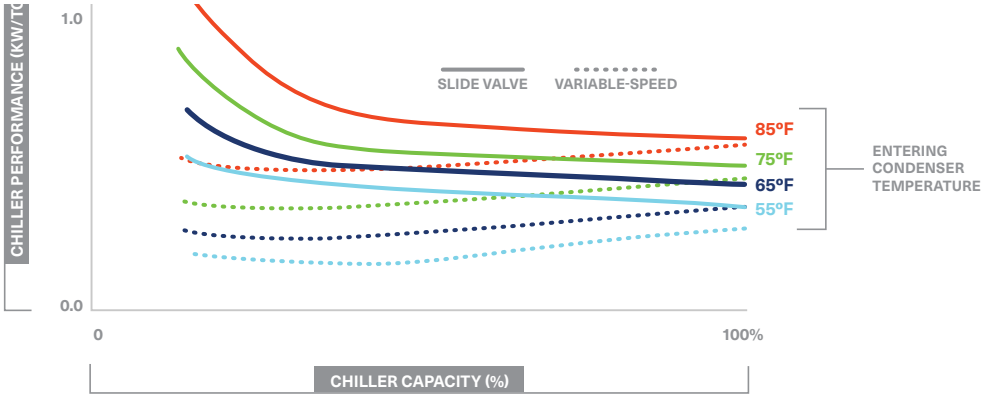
By incorporating the AFDR, chiller operation becomes much quieter, resulting in 10dB sound power reduction at a 50% load point. Quieter operation can increase the value and usability of nearby spaces.

In addition, the AFDR allows the chiller to stay online longer. This reduces temperature fluctuation throughout the building, increasing occupant comfort.

Compatible with building automation systems

Addition of the AFDR can enable you to fully incorporate all energy saving routines available to your existing building automation system. By incorporating it to Trane Tracer™ BAS, you can monitor equipment operation, manage set point changes and evaluate energy usage.

A more efficient chiller across the full range of operation



How it works

Basic chiller operation
Rotary chillers adjust to less demand (unload) using a slide valve, which moves down to the cycle point of the compressor. As it unloads, the chiller will become less efficient.

Chiller with an AFD upgrade
The drive is engaged first, varying the speed of the chiller motor as it moves down toward the cycle point. This allows the slide valve to remain fully loaded at all times, producing the best chiller efficiency.

See performance data below.

Reduced cycling protects your equipment

Allowing the chiller to unload to lower capacities can decrease the number of starts and stops. Variable torque and soft start also reduce the risk of motor and compressor damage, increasing the life of your chiller.

Your power is cleaner

The AFDR provides conditioned power to the chiller motor, which can prevent damage caused by utility phase loss, phase reversal or over and under voltage. With power protection, your chiller is even more reliable.

Engineered for your chiller

The Trane AFDR is designed for your specific system, delivered by factory trained experts using tools available only to Trane Service Personnel. Our experts will work with your team to configure space and determine optimum installation.

Backed by Trane

The Trane AFDR upgrade for RTHD chillers offers maximum protection at minimum price, with a standard 36/42 month warranty on parts. An optional extended warranty is available, bringing protection on both parts and labor out to five years.

Ask us to calculate your chiller's energy savings

A smart upgrade begins with data. Experts at your Trane commercial office can help you determine which upgrade option would be most beneficial.

Using DOE-qualified tools, including the Trane Option analyzer and TRACE™ 700 software, we can calculate highly accurate chiller plant life cycle costs. This analysis can show your monthly energy consumption and utility costs, yearly cash flows, first cost differences, simple payback, net present value and internal rate of return.

The analysis is customized to your location, building type, equipment and utility rates.

We can also help you evaluate energy savings from other chiller plant upgrade options you may be considering, such as cooling tower fan speed controls, Tracer™ chiller plant optimization, a chiller upgrade as part of the Trane Building Systems R'newal™ program or even complete chiller replacements.

Close Mount Configuration

AFDR Adaptive Frequency™ drive

Call now to save energy and money

For more information about adding an AFDR to your RTHD chiller, please contact your local Trane commercial sales office or visit us online at trane.com/buildingservices.

TRANE

Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit *trane.com* or *tranetechnologies.com*.

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