TRANE
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TRANE ADAPTIVE FREQUENCY™ DRIVE


# SAVE MONEY. BE ADAPTIVE

## Model AFDH

The Trane retrofit Adaptive Frequency™ drive (AFD) is available for Trane model CVHE and CVHF CenTraVac™ chillers. By adapting the motor speed to the chiller operating conditions, the AFD helps maximize chiller efficiency and reduces power consumption. Working in conjunction with the Trane chiller control panel, the AFD allows the chiller to meet the system load conditions and maintain the lowest possible kW/ton. Installing an AFD can provide significant energy savings; the resulting payback can be especially high in areas where utility rates and electrical demand are high.

## FEATURES AND BENEFITS

### Air-cooled

The Trane retrofit AFD, model AFDH, is air-cooled making it easy to install. Because of its 98% efficiency, the rejected heat has little impact upon equipment room environments.

### Unit- or Remote-mounted

Standard unit- and remote-mounted packages yield significant labor and space savings by allowing the AFD to be easily mounted anywhere in the mechanical room.

### Integrated Controls Software

The Trane-patented AFD control logic is integrated with the CenTraVac chiller controls to optimize chiller efficiency, reliability, and drive performance. Standard motor protection includes power factor monitoring, over and under voltage, lack of phase and phase reversal protection. Advanced motor protections, including output short circuit and ground fault protection, input transient, and voltage protections, are standard.

### Variable Torque and Soft Start

Variable torque and soft start reduces the risk of motor and compressor damage. Compressor motor is started using low frequency and voltage, then brought up to the correct speed slowly by increasing the frequency and voltage (torque) at the same ratio.

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## TECHNICAL INFORMATION

### Enclosure
NEMA 1 ventilated with a hinged, locking door and door-mounted circuit breaker with shunt trip, short circuit withstand rating of 100,000 amps per UL 508. The entire package is UL/CUL listed.

### Voltage
460v/480v

### Amperage
302 to 730 Amp frame sizes

### Air-cooled Ambient Limit
95° F for 24 hours continuous or 105° F absolute operating ambient

### Power Factor
Greater than 90% regardless of speed and load

### Efficiency
Minimum of 97% at rated load amps

## CONSIDERATION

### High Run Hours at Part Load
Trane AFDs can produce significant savings when applied to chillers that often run at part load by slowing motor speed instead of closing inlet guide vanes. Examples include office buildings with data centers, sports arenas, and buildings with oversized chillers.

### Frequent Starts/Stops
Swing chillers and chillers with very low loads are often subject to frequent starts and stops. This repetition is inefficient and hard on motor windings. The soft start capability of an AFD can reduce energy costs and improve motor reliability by keeping the chiller online.

### High Utility Rates
More expensive power means more savings when solutions like a retrofit AFD are installed. Higher utility rates accelerate the payback and allow for aggressive solutions like a retrofit AFD.

### Energy Rebates
Many utilities offer rebates for installing AFDs. Rebates can pay for a significant portion of an upgrade making the return on the investment even greater.


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For more information, contact your local Trane office or e-mail us at comfort@trane.com