

Dramatically Reduce Energy Consumption



Model AFDR Adaptive Frequency™ Drives



The Trane Adaptive Frequency Drive (AFD) upgrade is available for Trane Series R, model RTHD 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 a Trane Adaptive Frequency™ drive can provide significant energy savings. The payback can be especially attractive in areas where utility rates and electrical demand are high.

FEATURES AND BENEFITS

Easy installation

The Trane AFDR upgrade is an air-cooled solution, making it easy to install. Because of its 98% efficiency, the rejected heat has little impact on equipment room environments.

Integrated controls software

The Trane-patented AFD control logic is integrated with the RTHD chiller controls to optimize chiller efficiency, reliability and drive performance. Standard motor protection includes over and under voltage and lack-of-phase protection. Advanced motor protections, including

output short circuit and ground fault protection, input transient, motor overload protection, motor over/underspeed protection and voltage protections are standard. The AFDR interfaces with the Tracer AdaptiView™ control system.

Packaged and custom remote mount options

The AFD can be remote mounted to meet your requirements and mechanical room space restrictions. The “close-mount” option comes with all conduit and cabling required to install the AFD near the chiller. Choose standard, remote floor or wall mount options.

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.

Reduced sound levels

RTHD full load sound power can be reduced by almost 10 dBA with an AFD when the load reduces to 50% of full load.



AFDR Adaptive Frequency™ Drive

TECHNICAL INFORMATION

Enclosure

D1h Frame:

12.80" x 35.19" x 14.88"
(w x h x d) – No Pedestal

D2h Frame:

16.54" x 43.28" x 14.92"
(w x h x d) – No Pedestal

D1h Pedestal:

12.80" x 15.70" x 14.88"
(w x h x d)

D2h Pedestal:

16.54" x 15.70" x 14.92"
(w x h x d)

Voltage

460V, 480V, 575V, 600V

Amperage

460–480 (176–455 Amp)

575–600 (126–367 Amp)

Air-cooled ambient limit

104° F for 24 hours continuous or
113° F absolute operating ambient

Power factor

Exceeds 0.90 regardless of speed and load

Efficiency

Minimum of 98% at rated load amps

CONSIDERATIONS

High run hours at part load

Trane AFDs can produce significant savings when applied to chillers that often run at part load. Examples include schools, office buildings with data centers, sports arenas and buildings with oversized chillers.

Frequent starts and 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 an AFD upgrade are installed.

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. Payback is typically one to three years.



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.

All trademarks referenced in this document are the trademarks of their respective owners.

© 2020 Trane. All Rights Reserved.

SRV-SLB208-EN
07/13/2020