

## **NEXT GENERATION ELECTRIC HVAC**

Offering increased bus range and rider comfort,  
while reducing total cost of ownership.





## THE BENEFITS OF AN ALL-ELECTRIC BUS HVAC SOLUTION

Many public transit authorities have an interest in introducing or expanding their use of zero-emission electric buses. Given the benefits it's no surprise why. But the move does not come without its own set of challenges—battery range is top of mind for most. The HVAC system is the largest electrical load on a transit bus, requiring as much as 40% of the total available electrical energy. It doesn't have to be this way. All-electric HVAC systems can have the ability to lighten the load on the batteries. **Reducing power consumption** provides the capability to **increase range** of the bus and **save you money**, without sacrificing **rider comfort**.

Thermo King is a leading provider of quality HVAC products and is poised to assist you with the requirements of a demanding bus market. As part of our evolve™ portfolio of electrified products, the Next Generation Electric HVAC unit can provide several benefits.

### Reducing power consumption to enable increased bus range and ease battery anxiety on electrical system

- Promotes longer bus range for better asset utilization.
- Increased power, when needed.
- Provides up to 25% more capacity and efficiency than current Thermo King electric HVAC systems.
  - 1 single variable speed horizontal compressor.
  - The variable speed compressor provides a wider frequency range of 25Hz to 90Hz, an improvement over the 50Hz to 70Hz of the current vertical scroll compressors.
  - A wider capacity range, from the lower to the higher limit, means consuming power only when needed, saving power and increasing efficiency. Balancing the HVAC to match the load of the bus.
  - Utilizing backwards inclined blowers with noise suppression and increased number of variable speed fans (from 4 to 6) allowing to run at lower speeds that enhances system efficiency and reduces power consumption with no loss of airflow.

### Enhance rider comfort with improved interior temperature control

- Increase temperature control throughout the bus cabin for a consistent customer experience.
- Reduced noise for a quieter and more comfortable riding experience for your customers.
  - Battery Thermal Management System is integral to unit and no longer stands alone.
  - Reduces need for second compressor, additional coil, and second controller.
  - Improved battery coolant temperature control.
  - Reduces refrigerant connections and reduction of leak points (CARB regulation impact for California properties).

### Reduced total cost of ownership

- Improved reliability by reducing parts that need repair
- Reduction in parts replacement, maintenance, and service costs by eliminating additional compressor, coil, and second controller
- Improved battery coolant temperature control

To learn more about the benefits of the Next Generation Electric HVAC solution, contact your local Thermo King dealer.