


Rest
More Comfortable and Rested Drivers



Reduce
Reduced Maintenance, Fuel Costs and Emissions



ROI
Faster Return on Investment



The new
Series 5000 eAPU[®]
Unmatched Cooling Performance.



Series 5000 eAPU®

Idle Free Systems® offers a high capacity cooling-only electric APU solution with Automatic Start-Stop technology.

BENEFITS

- Provides maximum cooling capacity and direct airflow with driver comfort in mind
- Reduces idling
- Easy-to-use control panel
- Uninterrupted rest with Automatic Start-Stop
- No frame rail or storage space required
- Minimal maintenance required
- Quality technical support

WHERE TO USE

- Over-the-road sleepers



SPECIFICATIONS

- 10,000 BTUs compressor
- 300+ cfm evaporator fan
- 439lbs with battery box
- Use with Cab Power® system for hotel loads
- Condenser dimensions: 28.4" x 9.3" x 25.3" (L x W x H)
- Evaporator dimensions: 22" x 6" x 15.5" (L x W x H)
- Installation kits included
- Runs on 4 deep cycle AGM batteries

BENEFITS OF REDUCED IDLING

- Fuel savings
- Decreased engine maintenance costs
- Increased engine life
- Reduced DPF maintenance
- Longer warranty coverage (idling adds engine hours)
- Reduce emissions/pollution



FEATURES

- Unlimited run time with Automatic Start-Stop
- Two-year warranty
- 3-speed evaporator fan
- Direct airflow to sleeper (no duct work)
- Washable evaporator filter
- Multi-directional vents
- Patents pending (www.phillipsandtemro.com/patents)

Series 5000 Components



EVAPORATOR

Installs in the bunk and allows the user to adjust the air vents and control the air temperature and speed without duct work.



CONTROL PANEL

Located on the evaporator, the control panel allows the user to turn the APU ON/OFF, adjust the fan speed and the air temperature. There are three performance lights and two warning lights on the control panel.

AUTOMATIC START-STOP

The ON/OFF switch for the Automatic Start-Stop feature is located on the control panel. Turning this switch ON allows the truck to automatically idle to charge the batteries, turning the engine off once the batteries are fully charged. Automatic Start-Stop provides uninterrupted rest time for drivers and no delay on battery recharges.



CONDENSING UNIT

Easily mounts to the outside of the truck with a universal mounting plate. The unit is connected to the evaporator with refrigerant lines. The condenser is connected to the battery box for DC power.



BATTERY BOX WITH BATTERIES

In-between frame rail battery box protects against corrosion. Cabling, fuses, and battery separator are included. Batteries are available for purchase. On the frame battery box also available.

Testing & Validation

RUNTIME TEST

Using the largest sleeper (80-inch) with R-2 insulation for worst case conditions.

- Even in high ambient temperatures, the truck will only need to start once during the rest period

Ambient Temperature	Bunk Temperature	Automatic Start-Stop Enabled, Truck Start (Hours)	Automatic Start-Stop Disabled, Low Battery Shutdown (Hours)
75°F	73°F	12.1	13.4
85°F	73°F	8.2	9
95°F	73°F	6.2	6.6
105°F	73°F	4.2	4.6

*Lab tested in a replicated 80-inch sleeper with R2 insulation (350 cu.ft.).

*System runtime is unlimited with Automatic Start-Stop enabled.

PULLDOWN TEST

Testing confirmed the amount of time it takes for a sleeper to cool down to specific temperatures.

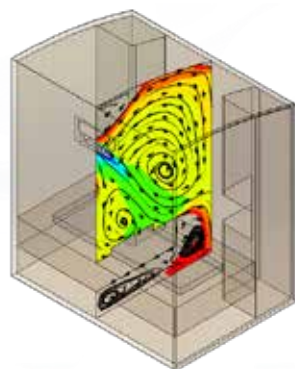
- Cools Sleeper to 73°F in under 5 minutes*

Evaporator Fan Setting	Ambient Temperature	Starting Bunk Temperature	Time it takes to reach the temp shown below (Minutes)				
			85°F	77°F	75°F	73°F	71°F
High	110°F	104°F	3.1	6.9	9.5	13.8	20
Low	100°F	92°F	1.6	3.9	5.1	6.8	9.7
Low	95°F	90°F	1.7	3.3	3.9	4.7	5.7

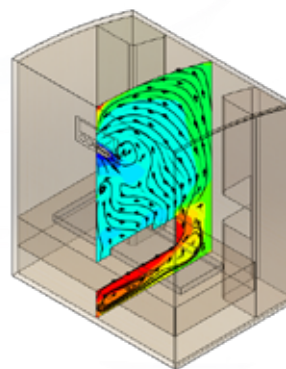
*It is recommended to pre-condition the bunk to maximize battery run time.

AIRFLOW TEST

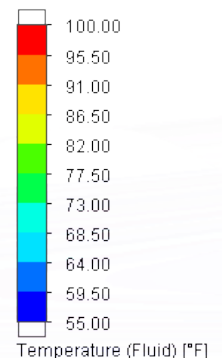
- Higher airflow creates more even temperature distribution throughout the cab
- Higher airflow provides better cooling performance



150 CFM (105°F Ambient Solar load, 9250 BTU/h)
Average Driver Temperature: 84.3°F



350 CFM (105°F Ambient with Solar load, 9250 BTU/h)
Average Driver Temperature: 69.3°F



* *Tests were verified by a third party certified lab.