



## Frequently Asked Questions

For additional information please contact:

Ousama Sabra  
Senior Product Manager, Systems  
C (470) 974-4252  
osabra@doverfoodretail.com

Subodh Sharma  
Director, Product Management, Systems  
C (470) 532-5203  
ssharma@doverfoodretail.com

Derek Gosselin  
CO<sub>2</sub> BD & Strategy Director  
C (678) 372-4111  
dgosselin@doverfoodretail.com

## ChargeSecure Q&A

### **Q: How will ChargeSecure know that it needs to turn on? What activates it?**

There are two incidents that need to happen for ChargeSecure to turn on 1) When there is a power outage and 2) When the pressure exceeds the predefined setpoint. ChargeSecure will automatically turn on and reduce the flash tank pressure to below the predefined set point.

### **Q: How does ChargeSecure work?**

When pressure exceeds the predefined setpoint the unit turns on and compresses the gas from the flash tank to the gas cooler, from where the gas is cooled by natural convection and then expands back to the receiver. This consequently reduces the overall pressure of the liquid line.

### **Q: How is ChargeSecure different than the HFC Auxiliary Backpack unit used today?**

ChargeSecure uses the CO<sub>2</sub> and oil present in the system, whereas the HFC system uses HFC. The HFC system condensing unit condenses the gas in the flash tank using a heat exchanger. ChargeSecure is much smaller and can provide a longer run time as it uses only 1.8 amps vs approximately 15 amps with the HFC backup unit.

### **Q: What charge will ChargeSecure protect?**

ChargeSecure preserves charge from the gas cooler to the liquid line up to the EEV's.

### **Q: Does ChargeSecure have its own controls, or will it be integrated into the rack controls?**

ChargeSecure has its own control panel that makes ChargeSecure's operation independent of the rack's controls.

### **Q: What will ChargeSecure's power source be?**

ChargeSecure can run on either a backup battery or can be connected to a backup generator (208V or 240V / 1ph / 60Hz).

### **Q: Where can the backup battery / UPS be installed?**

The backup battery / generator can be installed anywhere indoors (closed chamber) within 300 feet of the ChargeSecure unit. Hillphoenix recommends installing the battery pack indoors to avoid extreme temperatures and battery performance degradation.

### **Q: For ChargeSecure operation, does the gas cooler need to be running?**

No; the charge will be cooled by effect of ambient conditions when it passes through the gas cooler.

### **Q: Will there be various sizes / capacities of ChargeSecure?**

No. ChargeSecure comes in one size that can fit into all Hillphoenix's food retail racks, (Flex, Flex-Mini, and Flex-MAX) (up to and including flash tanks capable of holding 2265 lbs of CO<sub>2</sub>). For larger (industrial racks), multiple units can be installed.

### **Q: Why is ChargeSecure only installed on Hillphoenix racks?**

Hillphoenix has no visibility on the competitors' systems and oil management control strategies, hence we cannot and will not guarantee proper operation of ChargeSecure on competitors' racks. Moreover, competitors' racks do not have any piping provisions for proper installation of ChargeSecure.

### **Q: How long does each battery last? How long will the unit run?**

ChargeSecure will run on a single backup battery for approximately 10-12 hours after the unit is triggered to start. The exact duration will vary depending on multiple factors depending on outdoor ambient, flash tank capacity and line run lengths.

### **Q: What is the life of the battery pack? How often should it be replaced?**

ChargeSecure uses standard lead-acid batteries which typically have a life of 10 years.

## FREQUENTLY ASKED QUESTIONS

**Q: How much of the CO<sub>2</sub> charge will ChargeSecure protect? What about the remaining charge?**

ChargeSecure is designed to protect the charge in the flash tank, gas cooler and liquid lines up to expansion valves, making up to Approximately about 70% of total charge. This constitutes the critical charge in non-airconditioned areas where the charge is more susceptible to faster pressure rise.

**Q: What do I need to install a ChargeSecure on an existing rack?**

A retrofit kit will be provided by Hillphoenix for installation on existing racks.

**Q: Can ChargeSecure be installed outdoors?**

Yes; ChargeSecure's enclosure is NEMA 3R rated for outdoor installation.

**Q: Does the chargeSecure require an additional cold weather kit for locations below 5 ° F?**

No; ChargeSecure is designed for low ambient temperature installations (built-in insulation). It is designed for ChargeSecure to be installed in temperatures as low as -30 ° F.

**Q: How can we ensure the proper operation of ChargeSecure?**

By following installation and maintenance procedures in the I & O manual. Moreover, it is advised to schedule a monthly manual testing of ChargeSecure for 5 minutes. The testing procedure is detailed on the I & O manual.

**For more details on ChargeSecure please go to:**

<https://www.hillphoenix.com/chargesecure/>