

TECHNICAL SPECIFICATIONS**ENVIRONMENTAL CONTROL UNITS**

Snowbird Technologies environmental control units (ECUs) are custom-engineered and manufactured to protect both people and equipment from the most intolerable conditions around the world.

Our units are designed to meet the extreme demands of military environments and are ideal for integration with mobile defense shelter systems, land, air, and water vehicles, and forward operating bases. The mil-spec design and durability make these units adaptable to industrial and commercial applications.

TRUSTED SUPPLIER OF ECU SOLUTIONS TO PRIVATE AND PUBLIC DEFENSE ORGANIZATIONS**QUALITY PRODUCTS**

trusted by the DoD, NAVSUP, DLA, Department of the Navy, and Tier 1 and 2 government contractors, and more since 1992.

All Snowbird Technologies ECUs have been qualified by the US Department of Defense through its testing programs and are available for use in compliance with all DoD requirements under prime and subcontract programs.

**CUSTOM-BUILT**

and assembled in our facility in Jacksonville, Florida, USA.

Our team of manufacturing professionals is dedicated to providing best-in-class customer service and support.

**ENGINEERED TO EXCEED**

your expectations with our in-house department of experts. Our ECUs are tested to MIL-STD-810, ASHRAE 37 capacity and verified to AMB.

Our units are designed for the harshest environments and can endure conditions up to 135°F.

We subject our units to EMI, shock, and vibration, sand, dust, and salt fog protocols, simulating actual operating conditions.

MODEL: SMART TELEMATICS SYSTEM

THE SMART SOLUTION FOR ECUS

Exclusively from Snowbird Technologies, SMART is a new telematics technology that is available on new and existing environmental control units and designed to improve capabilities and efficiencies while reducing downtime.

SMART is packaged in a modular system that offers the immediate capability of continuous remote control and monitoring of all critical ECU components. SMART is equipped with the 'brains' to notify users of the following: Warnings to prevent unit failures, automatic diagnostics to expedite repairs if a failure

occurs, and data logging for complete maintenance trackability. All SMART metrics can be monitored remotely and controlled over a network using a weatherproof CAT5e internet cable port on the front of the ECU.

AUTONOMOUS DETECTION AND NOTIFICATIONS

Low refrigerant charge

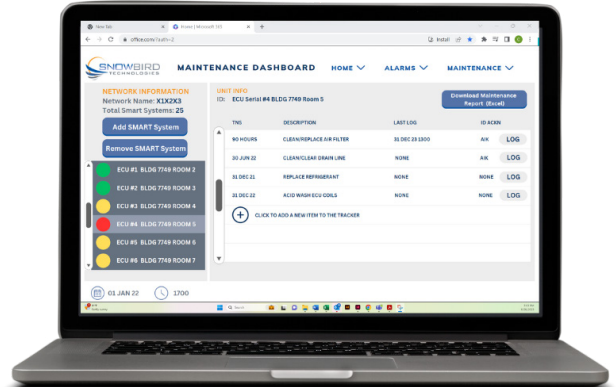
Refrigerant overcharge

Compressor overload*

Extreme ambient conditions

Dirty electrical power supply conditions*

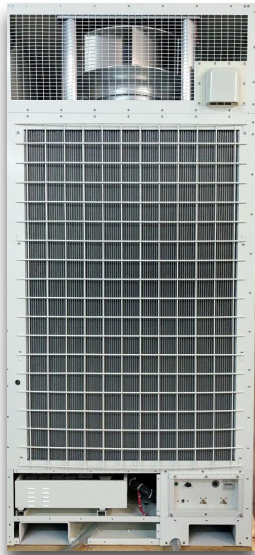
**ECU will perform an emergency shutdown if needed to protect itself from catastrophic damage.*



FEATURES

- Redundant sensors and backup operation modes built into the SMART package.
- Independent sensors for temperature control ensure ECU continues operating.
- Manual rotating switch included for continuous operation in the event that the system fails.
- Emergency VENT mode included.
- Variable refrigerant flow and air flow capabilities coming soon.

MODEL: 2559AS400-407C-1-V2



VERTICAL UNIT



LIGHTWEIGHT

10-TON 120K BTU/HR ECU

This vertical, lightweight, self-contained HVAC unit is manufactured in a weather resistant case designed to provide high-capacity heating and cooling for environmental control. Ruggedized to operate in extreme ambient conditions, this unit can run as a standalone product or in redundancy operational mode utilizing fiberoptic control with an HPI (human interface panel).

SPECIFICATIONS

Nominal cooling capacity:	120,000 BTU/hr at 60 Hz
Nominal heating capacity:	68,243 BTU/hr
Product dimensions:	86" H x 42" W x 38" D
Product net weight:	Max 985-lbs
Power requirements:	230 VAC, 3-phase, 60 Hz

FEATURES

- Operating temperature ranges of -29°C to 26.7°C (-20°F to 80°F heating) and -17.8°C to 52°C (0°F to 125°F cooling).
- Alternate power input source.
- Customizable operational control and mounting to meet user specifications.
- Integrated forklift pockets for ease of maneuvering without a skid.
- PLC controlled external thermostat senses when optimal cooling is needed and maintains maximum environment control in extreme environments. (Transfer panel needed).
- Integrated fresh air fan/duct.
- R-407C refrigerant.

OPTIONS AVAILABLE

- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic inrush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: A/E 32C-45A



OZONE-FRIENDLY



VERTICAL UNIT



LIGHTWEIGHT

3-TON 36K BTU/HR ECU

This ozone-friendly unit is a vertical, heat pump ECU that boasts a lightweight, self-contained unit built into a weatherproof aluminum case. The built-in heat pump provides a high-capacity heat-cool environmental control system.

SPECIFICATIONS

Nominal cooling capacity:	36,000 BTU/hr at 60 Hz
Nominal heating capacity:	76,000 BTU/hr with supplementary heaters at 60 Hz
Product dimensions:	72.5" H x 39.2" W x 14.8" D
Product net weight:	Max 500-lbs
Power requirements:	208 VAC, 3-phase, 50/60 Hz

FEATURES

- Controls the temperature of an adequately enclosed compartment within the variable range of 7°C to 32°C (45°F to 90°F) in ambient temperatures of -32°C to 52°C (-25°F to 125°F).
- Temperature is controlled by a cool-heat control thermostat.
- The ECU features three cycles – heating cycle, cooling cycle, and defrosting cycle.
- Outdoor thermostat with an adjustable range -23°C to 4.4°C (-10°F to 40°F).
- Sealed hermetic compressor
- R-134A refrigerant.

OPTIONS AVAILABLE

- Supplemental heating unit is a two-stage assembly each containing 6-KW heaters capable of dispersing a total of 41,000 BTU/hr. Over heating protection is provided.
- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic in rush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: A/E 32C-48A

PART #: 2026AS400-1



VERTICAL UNIT



LIGHTWEIGHT

5-TON 60K BTU/HR HEAT PUMP

This unit is a vertical, compact ECU that boasts a lightweight, self-contained unit built into a weatherproof aluminum case. A built-in heat pump provides a high-capacity heat-cool environmental control system.

SPECIFICATIONS

Nominal cooling capacity:	60,000 BTU/hr at 60 Hz
Nominal heating capacity:	99,000 BTU/hr with supplementary heaters @ 60 Hz
Product dimensions:	72.5" H x 39.2" W x 29.6" D
Product net weight:	Max 750-lbs
Power requirements:	208 VAC, 3-phase, 50/60 Hz, 3-wire power

FEATURES

- Controls the temperature of an adequately enclosed compartment within the variable range of 7°C to 32°C (45°F to 90°F) in ambient temperatures of -32°C to 52°C (-25°F to 125°F).
- Temperature is controlled by a cool-heat control thermostat.
- Three cycles – heating cycle, cooling cycle, and defrosting cycle.
- Outdoor thermostat with an adjustable range -23°C to 4.4°C (-10°F to 40°F).
- Sealed hermetic compressor.
- R-134A refrigerant.

OPTIONS AVAILABLE

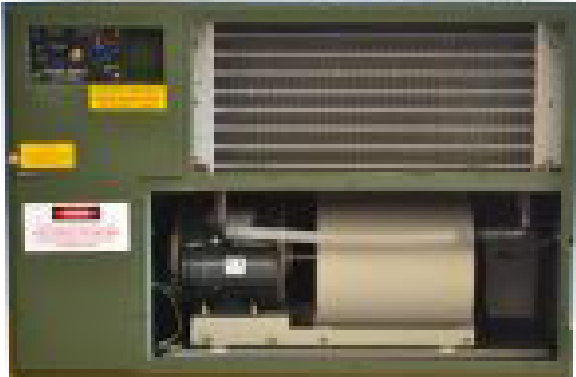
- Supplemental heating unit in a two-stage assembly each containing 6 KW heaters capable of dispersing a total of 41,000 BTU/hour. Over-heating protection included.
- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic in rush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: ERUSA-24KH-134A



OZONE-FRIENDLY HORIZONTAL UNIT LIGHTWEIGHT

2-TON 24K BTU/HR ECU



This ozone-friendly unit is a horizontal, compact air conditioner that boasts a lightweight design that can be wall or floor-mounted. An electric motor allows for continuous operation under varying loads making it an ideal option for use in mobile technical electronics shelters.

SPECIFICATIONS

Nominal cooling capacity:	24,000 BTU/hr at 60 Hz
Nominal heating capacity:	13,400 BTU/hr
Product dimensions:	20" H x 30" W x 27.9" D
Product net weight:	Max 290-lbs
Power requirements:	208 VAC, 3-phase, 50/60 Hz

FEATURES

- Operating temperature ranges of -45°C to 26.7°C (-50°F to 80°F heating) and -17.8°C to 52°C (0°F to 125°F cooling).
- Handles for lifting.
- Roll-up canvas condenser cover.
- R-134A refrigerant.

OPTIONS AVAILABLE

- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic inrush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: H36-ST410A-100



HORIZONTAL UNIT



LIGHTWEIGHT

3-TON 36K BTU/HR COOLING SYSTEM

This horizontal unit is ideal for trailer and skid-mounted applications, working as a standalone ECU condensing and evaporator system packed in a compartmentalized aluminum cabinet to withstand challenging environments. The H36 is designed for ease of serviceability and maintenance with compression latches and washable filters.

SPECIFICATIONS

Nominal cooling capacity:	36,000 BTU/hr at 60 Hz
Nominal heating capacity:	40,000 BTU/hr
Product dimensions:	37.9" H x 55.5" W x 36" D
Product net weight:	Max 410lbs
Power requirements:	208 VAC, single phase, 50/60 Hz

FEATURES

- Operating temperature ranges of -29°C to 26°C (-20°F to 80°F heating) and 12°C to 54°C (55°F to 130°F cooling).
- Lightweight, energy efficient design.
- Accepts alternate/hybrid power sources.
- Scalable design for easy increase in capacity to 5T and above.
- Designed for mobile and stationary applications.
- R22 refrigerant.

OPTIONS AVAILABLE

- Available with a digital thermostat
- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic inrush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: LCAC-33KH-3



HORIZONTAL UNIT



LIGHTWEIGHT

LCAC 33K BTU/HR ECU



This unit is a horizontal, compact ECU that boasts a lightweight, single-unit design that provides filtered cooled and heated air for the Landing Craft, Air Cushion (LCAC) vehicles. Trusted by the Department of the Navy for use on their LCACs and ship-to-shore connector hovercrafts, this unit features an electric motor that allows for continuous operation under varying loads.

SPECIFICATIONS

Nominal cooling capacity:	33,000 BTU/hr at 60 Hz
Nominal heating capacity:	24,000 BTU/hr with supplementary heaters at 60 Hz
Product dimensions:	20.44" H x 33" W x 31.75" D
Product net weight:	Max 300-lbs
Power requirements:	208 VAC, 3-phase, 400 Hz

FEATURES

- Operating temperature ranges of -34°C to 26°C (-30°F to 80°F heating) and 12°C to 52°C (55°F to 125°F cooling).
- Two-stage heating provided. Stage one (low heat) 9,500 BTU/hr and stage two (high heat) 14,500 BTU/hr for a total of 24,000 BTU/hr.
- Handles for lifting.
- Provided with remote control panel. Connection for remote environmental control switch (cool vent-heat) on the craft.
- R22 refrigerant.

OPTIONS AVAILABLE

- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic in rush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: S18K-LW-1**HORIZONTAL UNIT LIGHTWEIGHT****18K BTU/HR ECU**

This unit is a horizontal compact air conditioner that boasts a lightweight design ideal for use in mobile technical electronic shelters. An electric motor allows for continuous operation under varying loads.

SPECIFICATIONS

Nominal cooling capacity:	18,000 BTU/hr at 60 Hz
Nominal heating capacity:	13,400 BTU/hr
Product dimensions:	20" H x 30" W x 27.94" D
Product net weight:	Max 165-lbs
Power requirements:	208 VAC, 3-phase, 50/60 Hz

FEATURES

- Operating temperature ranges of -45°C to 26.7°C (-50°F to 80°F heating) and -17.8°C to 52°C (0°F to 125°F cooling).
- Alternate power source.
- Handles for lifting.
- Roll-up canvas condenser cover.
- R-410A refrigerant.

OPTIONS AVAILABLE

- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic inrush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: S8450-9KH-1**HORIZONTAL UNIT****LIGHTWEIGHT****9K BTU/HR ECU**

This is a horizontal compact environmental control unit that boasts a lightweight design ideal for use in mobile technical electronic shelters.

SPECIFICATIONS

Nominal cooling capacity:	10,000 BTU/hr at 60 Hz
Nominal heating capacity:	7,000 BTU/hr
Product dimensions:	16" H x 24" W x 26" D
Product net weight:	Max 175-lbs
Power requirements:	115 VAC, single phase, 50/60 Hz

FEATURES

- Operating temperature ranges of -45°C to 26.7°C (-50°F to 80°F heating) and -17.8°C to 52°C (0°F to 125°F cooling).
- Alternate power input source.
- Handles for lifting.
- R-407C refrigerant.

OPTIONS AVAILABLE

- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic inrush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: S9150-18KH-1



HORIZONTAL UNIT



LIGHTWEIGHT

1.5-TON 18K BTU/HR ECU

This unit is a horizontal, compact air conditioner that boasts a lightweight design for wall or floor mounting. An electric motor allows for continuous operation under varying loads, making it ideal for use in mobile, technical electronics shelters.

SPECIFICATIONS

Nominal cooling capacity:	18,000 BTU/hr at 60 Hz
Nominal heating capacity:	13,400 BTU/hr at 60 Hz
Product dimensions:	20" H x 30" W x 27.94" D
Product net weight:	Max 290-lbs
Power requirements:	208 VAC, 3-phase, 50/60 Hz

FEATURES

- Operating temperature ranges of -45°C to 26.7°C (-50°F to 80°F heating) and -17.8°C to 52°C (0°F to 125°F cooling).
- Alternate power input source.
- Roll-up canvas condenser cover.
- R22 refrigerant.

OPTIONS AVAILABLE

- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic inrush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: S9500-36KH-1**HORIZONTAL UNIT****LIGHTWEIGHT****3-TON 36K BTU/HR ECU**

This unit is a horizontal, compact air conditioner that boasts a lightweight design for wall or floor mounting. An electric motor allows for continuous operation under varying loads, making it ideal for use in mobile, technical electronics shelters.

SPECIFICATIONS

Nominal cooling capacity:	36,000 BTU/hr at 60 Hz
Nominal heating capacity:	31,200 BTU/hr at 60 Hz
Product dimensions:	27" H x 38" W x 35" D
Product net weight:	Max 398-lbs
Power requirements:	208 VAC, 3-phase, 50/60 Hz

FEATURES

- Operating temperature ranges of -45°C to 49°C (-50°F to 120°F heating) and -17.8°C to 52°C (0°F to 125°F cooling).
- Alternate power input source.
- Handles for lifting.
- Roll-up canvas condenser cover.
- R22 refrigerant.

OPTIONS AVAILABLE

- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic inrush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.

MODEL: SH12K-R134A-B**OZONE-FRIENDLY****HORIZONTAL UNIT****LIGHTWEIGHT****1-TON 12K BTU/HR ECU**

This unit is an ozone-friendly, horizontal compact air conditioner that boasts a lightweight unit designed for wall or floor mounting. An electric motor allows for continuous operation under varying loads, making it ideal for use in mobile van type enclosures that host technical electronics systems.

SPECIFICATIONS

Nominal cooling capacity:	12,000 BTU/hr at 60 Hz
Nominal heating capacity:	14,000 BTU/hr at 60 Hz
Product dimensions:	16" H x 24" W x 26" D
Product net weight:	Max 190-lbs
Power requirements:	208 VAC, 3-phase, 50/60 Hz

FEATURES

- Operating temperature ranges of -45°C to 26.7°C (-50°F to 80°F heating) and -17.8°C to 52°C (0°F to 125°F cooling).
- Alternate power input source.
- Handles for lifting.
- Roll-up canvas condenser cover.
- R134A refrigerant.

OPTIONS AVAILABLE

- Test diagnostics measured by electronic metering constantly monitors temp and pressure and provides fault detection and isolation.
- Electronic in rush suppressor to reduce LRA at start up.
- Customer specified color in "carc" paint.
- Customer specific requirements can be accommodated by our design team.
- Prototypes and rapid production samples available upon request.