800-772-0493

HydroThrift

www.hydrothrift.com

CONDITIONED AIR (CA) SYSTEMS

A cooling and heating solution for the most demanding requirements and severe environments. Television production trailers, mobile medical units, telecommunication portable units, mobile command and control centers, and custom coaches are just a few of the applications with critical heating, ventilation, and air conditioning (HVAC) needs solved with HydroThrift conditioned air (CA) systems. Custom engineered to operate in extreme ambient conditions from –20°F to 115°F, HydroThrift CA systems will exceed their rated performance at the most severe ambient design conditions – continuously, efficiently and with minimum maintenance.

Continuous compressor operation with 100% hot gas bypass. Sensitive electronic television production, communication, and medical equipment can't tolerate voltage surges caused by cycling an air-conditioning compressor off and on for temperature control. HydroThrift CA systems operate the air-conditioning compressors continuously and, when the temperature control is satisfied, a full 100% hot gas and refrigerant bypass system stops air-cooling entirely. This approach won't overcool equipment and personnel like typical hot gas bypass designs that reduce cooling capacity by only 25%.

Completely automatic and reliable operation. Whether your personnel or equipment cooling requirements are controlled by a simple thermostat or HydroThrift's Vision terminal, automatic operation with intelligent monitoring by a programmable control relay is always included. HydroThrift's control relay program monitors the cooling and heating system for faults and reports any problems on an LCD display. Fault tolerant logic allows the system to remain operational while reporting minor warnings and operators may bypass faults with the Vision terminal.

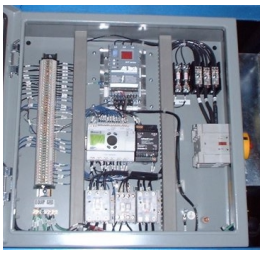
Engineered systems boost capacity and reliability. HydroThrift conditioned air systems are custom engineered to meet application requirements for optimum efficiency and dependability. As a worldwide supplier of industrial cooling and heating solutions, HydroThrift specialists engineer, design, and fabricate CA systems to rigorous industrial requirements and quality standards. Each system is assembled and tested by a certified refrigeration technician to guarantee rugged, dependable, and efficient operation with the endurance to survive over-the-road travel.

ALSO AVAILABLE: Economical upgrade of commercial units. As an economical alternative to a custom engineered and fabricated mobile HVAC system, HydroThrift provides quick turn-around upgrades of commercial wall-mount units to incorporate a 100% hot gas bypass system, refrigerant receiver and enhanced low-ambient control. Available in individual unit sizes up to 6 tons cooling capacity, HydroThrift upgrades are available for both right and left hand units such that two units can be mounted on the front of a trailer.

CONDITIONED AIR (CA) SYSTEMS
System Profile

Expanding 53-Foot Television Production Trailer Conditioned Air Unit. The G-Force Model CA+20 consists of (2) 50% capacity, independent HVAC systems mounted in a rugged, tubular steel frame for enhanced control and reliability. The CA+20 is designed to circulate 7,000 SCFM of airflow at 0.75" WC ESP. For equipment cooling and personnel comfort, the air-conditioning system is rated to provide at least 20 tons of cooling in ambient conditions from –20°F to 115°F and will continue to operate at higher temperatures. Electric resistance heater options range from 10 KW to 30 KW for winter comfort. Electrical power requirements are typically 208 Volts, three-phase, 60-hertz with a permissible voltage range of 190 to 250 Volts. The CA+20's compact design including a mounting flange facilitates installation on the front of the trailer without interference with the truck. The trailer manufacturer typically mounts a casing with access doors on the tubular steel frame or G-Force can provide this option.

Premium, domestic refrigeration equipment. Each half of the G-Force Model CA+20 air conditioning system features a Copeland Scroll compressor, custom-engineered condenser and evaporator coils, stainless steel drip pan, refrigerant receiver, and service valves on the compressor and receiver ports. The CA+20 uses Sporlan refrigeration components including a balanced-port thermostatic expansion valve, liquid line filter, solenoid valves, suction filter, hot gas discharge bypass valve, desuperheat thermostatic expansion valve, and sight glass with moisture indicator. System ventilation is provided by a belt-driven, double inlet, forward curved centrifugal fan and a non-overloading drive motor. High-velocity pleated filters provide filtration.



Variable Frequency Drive for Low Ambient Control. G-Force's CA+20 has a direct drive axial flow fan that draws air from below the unit and exhausts warm air out the front of the condenser coil. Condenser head pressure is maintained in low ambient conditions with a variable frequency drive that is controlled by G-Force's programmable control relay. The R-22 refrigerant receiver maintains the proper volume of refrigerant in the system regardless of load and ambient conditions.

System safeties and gauges. A receiver pressure relief valve, manual-reset high pressure switch, automatic reset low pressure switch, evaporator freezestat, heater automatic and manual reset switches, air flow switch, and an electronic compressor controller are the standard safety features of the CA+20. Exterior system high and low pressure gauges along with refrigerant service ports are provided for diagnostic purposes.

Automatic control. A NEMA 4 electrical enclosure contains all electrical components including motor and heater contactors, the variable frequency drive, programmable control relay, and 100-Amp non-fused disconnect switch. The control circuit is 208 single phase and 24 VDC. The programmable control relay monitors blower, compressor, and heater operating time, condensing head pressure, the variable frequency drive, and the system safeties.

TELEVISION PRODUCTION VEHICLES

HydroThrift
1301 Sanders Avenue, SW
Massillon, OH 44647
Tel: 800-772-0493
Fax: 330-837-0558