Case Study

Saving Lives in the Sky
One Passive Thermal Solution Revolutionizes Air Med-Evac

Challenge:
Allow critical blood supplies to be safely and efficiently carried aboard aircraft to save lives during emergency med-evac operations.

Solution:
MTS provided flight paramedics with Series 4-EMT carriers whose extended passive thermal control allows them access to blood in a safe state when it is needed most.

Benefits:
• High portability simplifies logistics
• Up to two days of protection for extended flight times
• Fast, easy prep saves labor
• Tight 1°C to 10°C range

Extreme weather conditions. Nearly inaccessible locales. Long-distance transport. Few medical scenarios are as perilous and demanding as helicopter med-evac operations. For Lafayette, La.-based PHI, a leader in air medical transport, the company’s mission has long been to carry out these critical emergency evacuations with the highest level of safety, both for their crews and their patients. A key component to accomplishing that mission has been to equip their crews with the absolute best, most reliable medical technology available.

Nowhere is the need for such state-of-the-art technology as keenly felt as in blood transport: For years, PHI helicopter crews had to make special trips to blood banks once they discovered a patient needed blood, making transfusion in flight all but impracticable. Four years ago, however, PHI’s air medical group began using Minnesota Thermal Science’s EMT thermal carrier units, which keep critical blood supplies at safe temperatures for up to 48 hours.

As Dallas-based flight paramedic Brent Dalley explains, “If we had no thermal units, our blood transport program would not exist and blood would not be readily available in patient interventions.” The highly precise passive thermal containers are essential for both the safety and efficiency that are hallmarks of PHI’s operations: “The units keep blood at the same temperature for extended periods of time. They eliminate the need for disposal of blood that is unusable due to temperature fluctuation,” reports Dalley.

This precision is crucial because it allows life-saving blood supplies to be taken along on even the longest med-evac flights, which means patients can receive the best of care, even in remote locations. “MTS’s containers allow our patient interventions to more closely model what they would receive in an ER or ICU.”

Dalley recalls a recent illustration of the way MTS’s thermal solutions have given PHI med-evac crews the ability to deliver top-notch emergency care in the air. After sustaining injuries in a car accident more than 100 miles from the hospital where they would eventually receive treatment, a patient in critical condition was airlifted by Dalley and his crew. “The patient had lost a significant amount of blood, and the crew was able to maintain blood pressure by starting blood during the 45-minute transport. After arriving at the hospital, the trauma surgeon commended the flight crew for their actions, saying, ‘If you hadn’t used the blood, this patient would not have made the flight.’”