

Universal Air Filter
Air Filtration



UAF Provides an Essential Component to a Life-Saving Device for Heart Patients

SAVING LIVES

UAF relies on thermal management technology in SynCardia's Freedom Portable Driver so artificial heart patients can be better prepared for a heart transplant.

RANDY WAS DYING

Randy Shepherd was happily married, raising three kids and running a successful business. As a teenager, rheumatic fever had severely damaged his heart. Despite living a healthy lifestyle, Randy had serious heart problems. His doctors recommended a heart transplant.

As he waited for a donor heart, Randy's body deteriorated. Fragile and bed-ridden in a hospital 200 miles from home, he was connected to tubes and machines. As his heart weakened, his skin began to turn gray. At the age of 42, he was almost out of time.

According to the National Institutes of Health, each year, 800,000 Americans die of heart failure, which accounts for one out of every three deaths in the U.S. SynCardia's mission is to give end-stage heart failure patients more quality time and the Portable Freedom Driver helps them do that.

AN ARTIFICIAL HEART

Randy's medical team recognized that he was too sick to wait any longer for a donor heart and scheduled him for an artificial heart implant. His decaying heart was successfully removed and replaced with an artificial device. He awoke tethered to equipment so massive in size that he could not leave his hospital room. Historically, heart patients had to wait in a hospital bed until a donor heart was available.

CASE STUDY

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UAF MAKES THE
PORTABLE FREEDOM
DRIVER A REALITY

SynCardia recognized the need for artificial heart recipients to have the opportunity to get stronger while waiting for a heart. They designed a portable device that would give patients the freedom to leave the hospital. The Portable Freedom Driver is the world's only commercially approved heart replacement technology.

Compact medical equipment means more powerful heat-producing components which initially caused the Portable Freedom Driver to overheat. Without effective venting and heat dissipation, the device was not safe. SynCardia contacted filtration experts.

UAF designed a Quadrafoam air filter for the Portable Freedom Driver. The tiny filter increased the airflow for cooling without sacrificing equipment protection from contamination. And, UAF did not compromise the size requirements – the Portable Freedom Driver weighs less than 14 lbs. The thermal management technology ensures optimal operating temperatures. This means that patients like Randy can walk out of the hospital.



Freedom Portable Driver

THE PORTABLE
FREEDOM DRIVER
& A NEW LEASE
ON LIFE

Randy's story has a happy ending. He returned home to be with his family while he waited for a donor heart. As he got stronger he resumed coaching his son's baseball team. When the call came that a matching donor heart was available, Randy was healthy and prepared.

Today, Randy lives with a donor heart. He is active and healthy. For someone who once preferred chocolate chip cookies and George Strait, he now prefers gingersnap cookies and Lady Ga Ga. And that's just fine with him. Randy is alive and plans to stay that way for a long time to come.



Randy completed a local 4.2 mile run/walk after his heart transplant.