Founded in 2007, Flagsuit delivered its first commercial space suit gloves to Orbital Outfitters in 2008 for use in the Industrial Suborbital Space Suit developed for XCOR Aerospace, and has produced several generations of pressure capable gloves for industrial, educational and space applications. Flagsuit has also produced lower arm assemblies for glove box use, and spacesuit shoulder joint prototypes and high-pressure (8.3 psi) Improved Glove Assemblies for NASA Johnson Space Center.

Flagsuit is a leading innovator in soft goods design, fabrication and performance. Our gloves and pressure suit components provide excellent dexterity at higher operating pressures, at a fraction of the cost of others. We have developed unique sizing and fabrication methods that enable us to create custom-fitted garments at no additional cost over standard sizes. Flagsuit gloves won first prize in both NASA Astronaut Glove Centennial Challenges, delivering over twice the performance of current space suit gloves. That’s because Flagsuit’s patented textile-based bending joints provide greater range of motion and lower bending torque under pressure.

From pressure gloves to space suits, or your custom application, Flagsuit stands ready to work with you on your next high performance inflatable project.
GLOVES

Flagsuit's unique gloves, developed from two NASA Astronaut Glove Centennial Challenge winning designs, provide excellent mobility at pressures of 8.3 psid and even as high as 15 psid (full vacuum). They feature proprietary patterning, parametric sizing, a pivoting metacarpal bar, soft details for control of palm ballooning, and streamlined wrist connector details. These developments reduce manufacturing costs by utilizing flat pattern techniques and standard fabrication processes. Flagsuit has developed a “make to fit” process whereby each glove assembly is customized to the wearer’s unique finger and palm measurements for about the same cost as standard sizing.

GARMENTS

Flagsuit has developed a market-ready arm segment with articulating wrist and elbow elements to be used with our pressure capable gloves to enable manual manipulation of objects inside a full-vacuum chamber. The 15 psi-capable arm-glove combination represent a new product addressing the needs of commercial and industrial customers. Flagsuit's joint designs can be applied to a full-body suit and include the capability to adjust sizing while the suit is donned (unpressurized). The combination of high operating pressure and high mobility in a re-sizable soft garment is game changing for space and terrestrial applications.

VACUUM GLOVE BOXES

Flagsuit has designed and produced several sizes of negative pressure chambers for human operation of pressurized gloves and arms, from self-contained single port desktop models to complete facilities for public exhibition and human testing of advanced space suit glove designs. We can build a chamber for your needs.

FACILITIES

All manufacturing is performed at our 1,600 square foot facility located in Southwest Harbor, Maine, which includes research space, office space, sewing department, and fabrication/test lab. Capabilities include soft goods fabrication, molding, hot seaming, coupon tensile testing, pressure testing, range of motion and joint bending torque testing, parametric CAD/CAE, metal hardware fabrication at a separate machine shop with 3-axis CNC mill, lathe, manual mill, 3D printer, welding equipment and additional fabrication tools.