

August 7, 2024

Two-Phase Flow: Innovation in Motion

We always believe in pushing the boundaries of what's possible. This belief led us to develop and patent the SCAMP (Self-Contained Actuating Magnetic Pump), a revolutionary pumping solution designed to tackle some of the most challenging fluid management issues across various industries.

Why We Built the SCAMP

The journey began with a need in the aerospace sector. Small satellites and spacecraft thrusters often rely on storable propellants, which traditionally require complex and bulky pressurizing systems. We saw an opportunity to create a more efficient, compact, and reliable solution. Enter SCAMP, which excels in low-flow, high-pressure applications. Originally designed for in-space use, SCAMP's versatility has since opened doors to numerous other industries and cryogenic applications.

What is SCAMP and What Does It Do?

SCAMP is a linear solenoid-driven pump that operates independent of upstream conditions. It is fluid and fluid state agnostic, meaning it can handle various propellants and fluids with minimal modifications. One of its standout features is its ability to operate in two-phase cryogenic environments, offering unparalleled effectiveness even in extreme conditions.

An Issue SCAMP Solves

In the aerospace industry, SCAMP addresses several problems, including thermal stratification in cryogenic tanks. This capability is crucial for long-duration space missions, where maintaining thermal equilibrium and minimizing boiloff is vital.

How SCAMP is Different

Unlike traditional centrifugal pumps, which struggle with low flow rates, very high pressures, and two-phase flow, SCAMP is designed specifically for these conditions. Additionally, in adverse operating environments, SCAMP is capable of self-priming to aid in system start-up. Its fluid-agnostic nature and ability to operate efficiently in two-phase environments set it apart from existing solutions. SCAMP's non-contact components and design for long life further enhance its reliability and performance, making it a truly innovative

solution.

Broad Industry Applications

From healthcare to space, SCAMP's potential applications are vast:

Healthcare: Managing cryogenic fluids in medical devices.

Pharmaceuticals: Precise fluid control for manufacturing processes.

Aerospace: Enhancing performance and reliability of propulsion systems.

Energy: Efficient management of cryogenic fuels.

We're excited about the future of SCAMP, its differentiating feature set, and its potential to transform industries. Stay tuned for more updates on how this revolutionary pump is making waves and setting new standards in fluid management!

