

# TELEDYNE HASTINGS

## APPLICATION NOTES

# INSTRUMENTS

**Goal:** High Velocity Low Pressure Flow Delivery and Measurement

**Solution:** Teledyne Hastings HFM-200/ LFE Flow Meter with Laminar Flow Element



The Teledyne Hastings HFM-200 with Laminar Flow Element (LFE) is most suited for low differential pressure applications.

One application is a leak rate test for testing astronauts' space walking suits, which includes measurements for dermal respiration and heat dissipation.

Since the layers of the space walking suit range in purpose from protecting the astronauts from micrometeorites to radiation, the leak test is administered on each individual layer of the suit as well as the combined full suit while in use underwater. This testing relies on Teledyne Hastings HFM-200-LFE flow meter to provide low-pressure flow and accuracy.

During the test, the suit is exposed to simulated elements in varying degrees while the integrity of all fabric and non-fabric components are measured for leak rates.

The constant pressure in the suit is an induction-regulated flow under very low pressure and high velocity flow. Very low backpressure is expected when the suit is in a dormant condition. Any variation due to leak is clearly measured by the rate of increase of flow rate.