

Singapore Operations Overview

May 3, 2026



All final assembly, testing and packaging are performed in a class 100 cleanroom and 100% of the products are tested for function and leak integrity. Once final assembly is completed, the following describes the regulator process:

The first step in the testing sequence is functional. The test benches are fully automated and have two stations, enabling two devices to be tested at the same time. The benches are plumbed with both high pressure and low pressure UHP grade N2. A PLC controls the test sequencing, monitoring the performance. The system reports either the unit passed or notes the test that was failed. Pressures are monitored with 0.1 psi resolution transducers.



The pressure regulator is connected to the test system and the serial number bar code is scanned. The system recognizes the model number and selects the correct test parameters. The test begins at the push of a button.

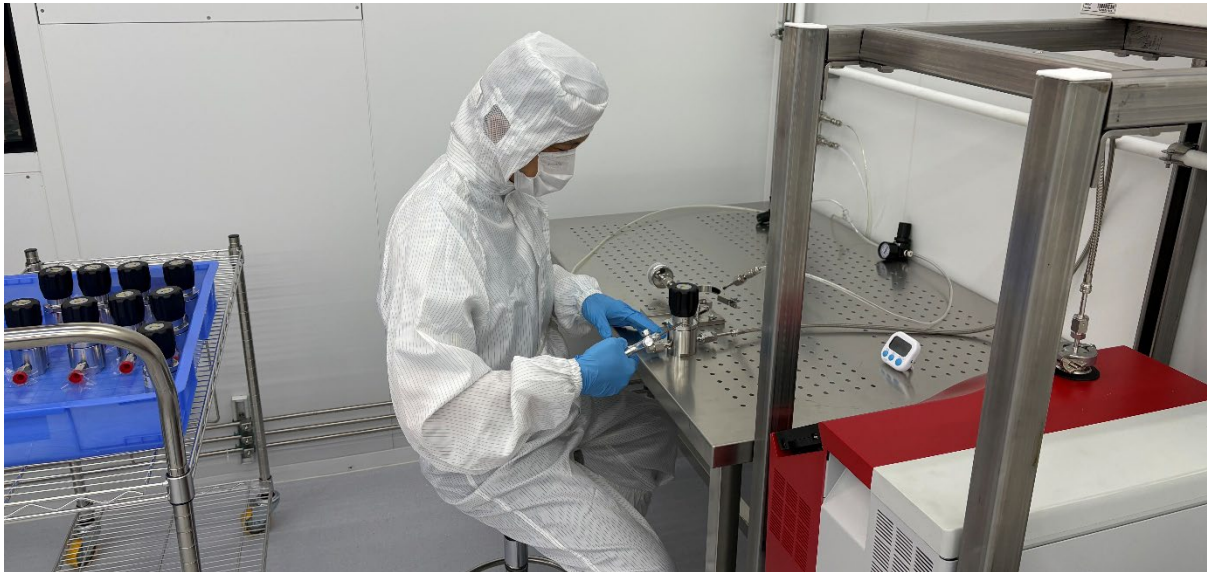
Bar code tracking

The functional test includes a static pressure test as a gross leak check, a flow test utilizing a downstream orifice monitoring pressure drop and across the seat testing for lock up and creep. The regulator is exercised and the knob installed with the maximum adjustment stop set, prior to flow testing. Once the test has been successfully completed, the device moves on to leak testing.



Automated test bench

The He leak test benches have one station per bench which keeps pace with the throughput of functional testing with two stations. The leak testing begins with a standard inboard He leak test performed for one minute to published specifications. He is sprayed near the leak test ports, the cap vent port and each weld.



Standard helium inboard test

The next step is inboard X testing which is an enhanced inboard He leak test, also for one minute. The body leak test ports for the diaphragm to body seal is externally pressurized to 100 psig of He utilizing a special test fixture.



Inboard X helium test



Final inspection

A sample inspection is then performed prior to packaging. A video microscope is used to view ports and face seal beads for imperfections.

Packaging completes the process with fittings capped with protective covers and double bagging. Once sealed in the packaging, regulators exit the cleanroom for shipment.



Double vacuum bagging