Leak and Flow Testing of Multi-Lumen Catheters

Problem/Goal:
A medical device company manufactures a variety of catheter configurations for which they require high-resolution, accurate repeatable and reliable leak and flow test results.

Testing must be performed on each lumen of the catheter and the results reported by lumen. The test instrument must also have the flexibility to create separate pass/fail criteria for various lumens, and be able to accommodate both male or female luer inputs and straight tube input.

Resolution:
For this customer, TME designed a unique instrument that met all the criteria.

This specific Seven Port Sequential TME Solution™ is a customized instrument that may be programmed to test from one to seven ports operating in a sequential process. This enables the instrument to test up to seven lumens on a single catheter. Each channel may be selected to run either leak alone, flow alone or flow followed by leak tests. When the flow tests are selected all flow tests are performed prior to running any leak tests.

Comments:
The user must set all leak and flow test pressure and time parameters to be the same for all ports in use, but decay limits and flow limit parameters of each port may be customized by the user to create separate pass/fail criteria for various lumens.

Used with a Sealing Fixture to accept the distal end of the catheter, this customer’s Solution is configured to accept up to four (4) female or male luer proximal inputs and up to three (3) straight tubes. Test data is presented in a listed display where decay pressure and flow results are shown.

Fixtures:
TME has a variety of sealing fixtures available including fixtures configured for balloon guided catheters.

TME has designed and manufactured over 1,200 unique test fixtures to solve leak and leak/flow test problems in the Medical Device, Pharmaceutical, Automotive, Electronic and Packaging industries.
TM Electronics offers two instrument choices: There are subtle differences between the two instruments. Your TME account manager will recommend which will best fit your testing needs.

**TME Solution:**
The TME Solution has proven throughout the years to be a most reliable long lasting custom and standard leak test instrument.

Sensitive, repeatable, easily maintainable and reliable, the TME Solution can perform a variety of test types on product, including burst, occlusion, vacuum and pressure decay, crack, and differential pressure or vacuum.

Its touch screen menu driven operation allows the operator to control the test parameters, examine statistical analysis of results and download files easily.

**TME Worker Integra:**
A bench-top, high resolution leak test instrument with small footprint and user-friendly ease of operation.

The icon based touchscreen display provides easy, clear navigation through the wide variety of data handling and review screens.

Pressure changes as low as 0.0001 psi are detected from leaks in test parts.

For more information contact TME today.