Leak Test of Endoscope Irrigated Blade Assembly

Problem/Goal:
A medical device company manufactures an irrigated blade assembly for an endoscope which requires accurate repeatable leak test results.

The test fixture must also have the flexibility to be able to adjust to a variety of test part lengths.

Resolution:
For this customer, TME designed a test fixture slide rail.

Attached to the TME Solution™ leak test system the unit is designed to test two sizes of the irrigated blade assembly. The TME Solution detects leakage from a test part by sealing the open (distal) end of the part, pressurizing the part at the proximal end, and performing a pressure decay leak test. The test fixture is composed of a fixed base with two clamps, one fixed and one movable to adjust to the length of the test part. Two different seal sizes were provided for the movable clamp to optimize sealing.

The system is provided with a clamp timer function to enable complete sealing of the test part before the leak test begins.

Test results are displayed as one of the following:

1. “Gross leak”: indicating that a leak exists that exceeds the pressure tolerance. A red “Rejected” light shows on the instrument face.
2. “Accept”: Indicates the part has passed the leak test. A green “Accept” light shows on the instrument face.
3. “Reject”: Indicates the test part has a small leak which exceeded the preset acceptable pressure decay level. A red “Reject” light shows on the instrument face.

Solution with test fixture for leak testing irrigated blade assembly

Fixtures:
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 screen.

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

For more information contact TME today.