

Testing A Tube Bore For Imperfections

The engineers at ACME Small Bore are up to it again.

This time they are testing bore imperfections in .001 bore tube. How small is that? Really, really small.

He will pass a ported-hollow rod between two o-rings using a highly accurate, precision motor. This rod pressurizes the annulus in the bore and leaks will occur if the annulus passes by minute imperfections in the bore walls.

The hollow rod will also have varying pressures as the ports in the rod pass by the o-rings (as if this application was not difficult already!)

Alicat engineers determined that this system would require two Alicat devices (we're only human), a pressure controller and a mass flow meter.

Need: A device to check for very small leaks (@ 30 PSIG, flow volume (leak) is <1 mL) in a system.

Solution: One **PC3-100PSIG-D** to maintain constant pressure and an **M-0.5SCCM-D** to detect the leaks.

- Although Alicat devices provide many options, sometimes more than one device is needed to correctly set up an application.
- Alicat engineers are here to support you with the technical knowledge for correct device selection and set up.
- Alicat devices are very accurate:

Pressure Controllers: Standard Accuracy: +/- 0.25% [full scale]

High Accuracy Option: +/- 0.125% [full scale]

Repeatability: +/- 0.08%

Mass Flow Meters And Controllers: Standard Accuracy: +/- (0.8% of reading + 0.2% of full scale);

High Accuracy Option: +/- (0.4% of reading + 0.2% of full scale)).

Repeatability: +/- 0.2%, mass flow meters (and controllers)).

And the Turndown Ratio for both Pressure and Mass Flow Devices is 200:1!

