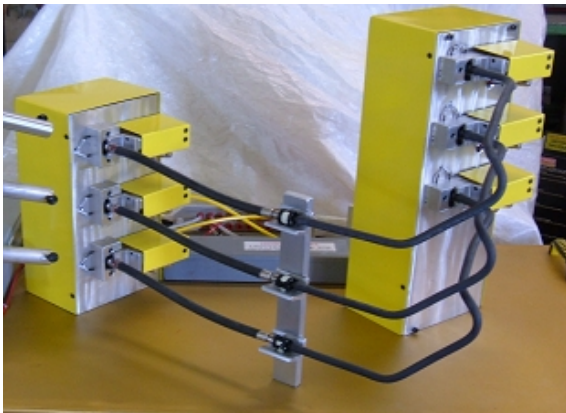


## LEAK TESTING OVERVIEW

We are familiar with a variety of leak testing instrumentation and techniques. Whether you require pressure decay, pressure gain, vacuum decay, or mass flow testing, we can build tooling to suit your needs. Currently, we employ the Cincinnati Test Systems I-24 test unit as a standard. We can easily substitute any other instrumentation to match what you currently use. Our staff attends training to remain up to date on the latest technologies.



In order to save your company the most money on work cell systems, your low volume production tooling can be universalized. We can provide a single base unit containing the test instrument, PLC and necessary hardware to run a number of tooling top configurations. This also makes future tooling top configurations possible when you have completed the manufacturing cycle of a particular part or assembly. If you have high volume production needs, it may be more economical for us to provide dedicated test units and tooling.



Many configurations of brake and fuel lines also require some assembly, including retainer clips, tape and many other possible add-ons. We are fully capable of assisting in, and verifying the proper assembly of these parts. We employ poka-yokes such as go-no-go nesting as well as fiber optic, proximity, color, and vision sensors to ensure everything is fully engaged and oriented properly. In the event of reject parts, the machine locks everything into the tooling until the operator acknowledges the reject condition and takes appropriate measures.

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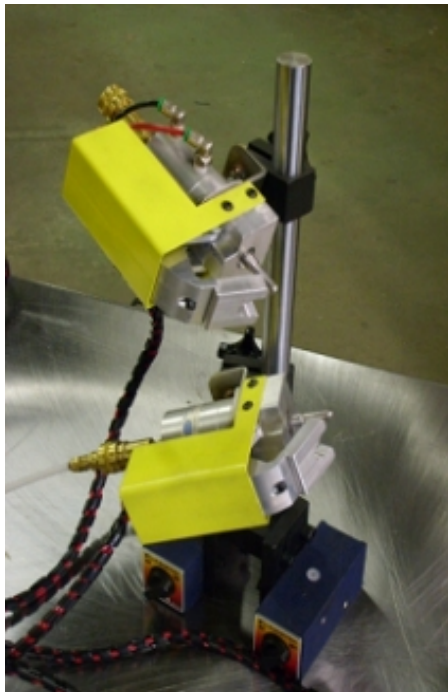
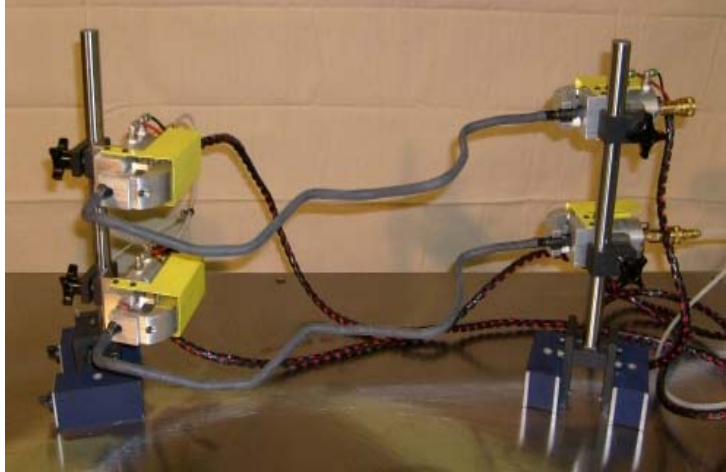
## **FLEXIBLE LEAK TEST MACHINE**



The W. G. Benjey Flexible Leak Test Machine is an effective and inexpensive way for you to perform leak testing on many of your simpler automotive fluid system lines. The machine is capable of testing virtually any line constructed of a single tube with a connector on each end. Aimed at handling your production runs, this unit is also ideal for in-house testing of pre-production lines.

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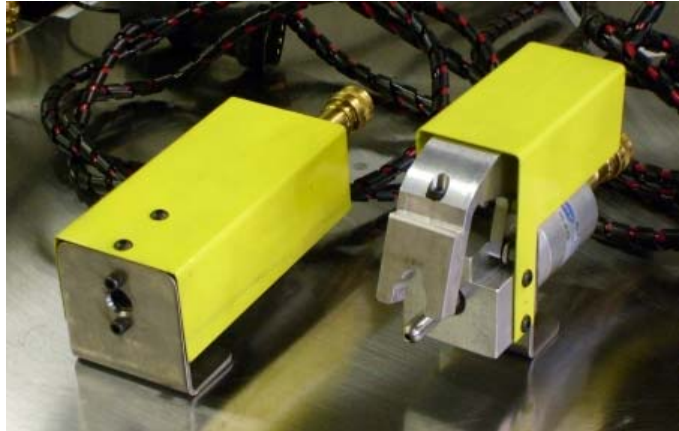
Easy to set up and use, this machine is intended for simple leak testing purposes when sensing for features of the tube is not necessary. Therefore, it uses no sensors or poke yokes. This machine includes two test units and is capable of testing at low pressure (0-30 psi) or high pressure (30-150 psi). The test units are independent and both can be operated simultaneously. Each test unit can be configured to your exact standards.



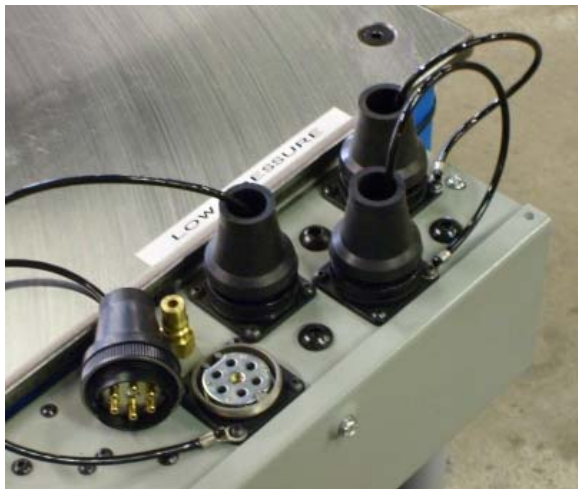
The main feature of this machine that makes it so versatile is the use of interchangeable test heads mounted to a universally adjustable stand. The magnetic base of the stand allows it to be placed anywhere on the table, while the mounting shaft can be set at any angle up to 30 degrees from vertical. Each individual head can then be set to any position desired. This allows you to test a line of practically any shape or orientation, up to approximately 54" in length. The heads also allow for testing of tubes in several different configurations. A single fluid line with a deadhead connector can be tested using only a single test stand and head. The machine can operate as a two-up when two test stands and four heads are used. And, with four stands and eight heads, both the low-pressure side and high-pressure side can operate simultaneously on two completely different tube assemblies.

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The test heads are also designed to match your needs, whatever they may be. The heads can be built to accommodate nearly any style connector, male or female, from 1/4" up to 5/8". When possible, heads are designed to accommodate multiple connector styles of the same size, which allows the possibility of running multiple fluid lines off the same tooling. Any combination of heads can be used simultaneously, while changing heads is easy and requires no tools.



Test heads are completely interchangeable through the use of quick disconnects and air logic. Two motions are available for each test head (typically clamping and probe extend/retract). All heads can be used with either the high or low-pressure sockets, and will operate exactly the same no matter which socket you plug into.



Our flexible leak test machine can handle any type of simple line that you test. Whether they are plastic or steel, use female connectors or male end forms, or are any size between 1/4" and 5/8".



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## **MOLDED OR FABRICATED CAVITY TESTING**

Our leak testing techniques also apply to cavity applications, large and small. The range capability of the instrumentation aids in our design of the most accurate and efficient test profile meeting the challenge of various cavity configurations.



Large Combustion Engine Oil Pan



Small Inline Vacuum Canister