

# OPTIONAL TEST FEATURES

THE GOAL . . . TO PROVIDE 100% AUTOMATIC QUALITY CONTROL

*In addition to holes, the blow moulding process can produce a variety of other defects that adversely affect the quality of the moulded product. In the past it has been acceptable to rely on operator inspection to check for these problems, but in an increasingly competitive environment, this is a luxury few companies can afford.*

*With the addition of a few sensors, a leak tester can perform a number of extra tests that will help ensure that the mouldings you sell are 100% to your customers specification. New sensors are continually being developed and the list of optional features will continue to grow as these new devices are incorporated into our testers. Your expectations as to what you require from down stream testing equipment is important to us, particularly as virtually all the optional features listed below were developed as a result of customer requirements.*

## ◆ **Blocked Neck Bore Detection**

This is the simplest and most popular addition to all makes of leak testers and is available in two basic forms:

Mechanical Sensor - Low cost - can be fitted to any leak tester

Electronic Sensor - More accurate - less prone to jamming and enables a better reject analysis

## ◆ **Top Load Strength Measurement**

The force applied by the leak test head will always cause the bottle to collapse by a small amount, and this movement can be measured by a linear position transducer. If the collapse exceeds an operator set value then the container is rejected.

We also offer a much more sophisticated system that lowers the test head onto the bottle neck with a low force, automatically sets this as 100% and then applies the correct force for the top load test. A digital readout displays both the bottle deflection and the applied force.

## ◆ **Height Measurement**

Although container height measurement is provided by the top load strength system a much simpler system is available that uses a photocell beam set just above the "normal" bottle height. This is useful for detecting if neck flash is still present.

## ◆ **Flash In Handle**

The possibility that some part of the blow moulding process is incomplete is one of the reasons that full automation ("lights out" production) is still proving to be impractical for many companies.

Residual flash and other unfinished operation can usually be detected by simple photo cell techniques.

## ◆ **Colour Measurement**

There are many photocells on the market that can compare a containers colour to a previously "taught" reference. This can give an early warning that the colour concentrate (masterbatch) is running out. It can also be used to detect missing or misplaced labels by checking that a particular colour on the label is in the correct place.

## ◆ **Translucency/Opacity**

There are occasions where it is important that a container is sufficiently opaque e.g. to prevent the end user from seeing the "fill line".

There may be other applications where the container should be clear enough to see the contents e.g. photo copiers detect that the toner is low by shining light through the toner container.

Conventional photocells perform this task reliably and are easily added to the leak tester.

FOR MORE INFORMATION CONTACT

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## ◆ Vision Systems

The continual progress in micro-electronics is bringing down the cost and increasing the capabilities of vision systems to the point where they can now be applied to detecting many common container defects. We have evaluated many systems on the market and have some serious reservations about the user friendliness of the operator interface. See our technical bulletin BM005 for further information.

## ◆ Automatic "Self-Test"

Our "self-test" system works by automatically opening a calibrated orifice into the container and monitoring the successful rejection of the "faulty" container. The test can be set to operate at any frequency e.g. once every 10, 100 or "N"

A simple system with a manual tap and orifice can also be supplied. This is particularly suitable for manually loaded testers.

## ◆ Automatic Check Weighing

If it is important that you don't ship containers outside the customers weight specifications, then you will appreciate that this system will automatically reject any container not within the limits you set. We can offer both static and dynamic weighing (weighing the container on a moving belt) to enable automatic weighing from normal to high speeds.

## ◆ Automatic Weight Correction

Our weighing systems have the capability of sending a correction signal to the machines die gap control circuit to maintain the container weight within tight limits. This can save material by allowing you to run nearer to "bottom limit", and get more consistent performance from the blow moulding machine and other downstream equipment.

We are the sole worldwide licensees to the Krupp-Kautex patent which covers the basic principle, and in addition we have patented a unique method of interfacing to the machines parison programmer.

## ◆ Scrap Count Correction

Our leak testers all provide a count of passed containers and an analysis of the number of containers failed and the reason for failure. These counts can be manually modified if for example some containers are subsequently found to be "saleable". This feature is normally password protected.

## ◆ Wall Thickness Measurement

Our translucency/opacity detection system provides a simple check of container thickness but is obviously not true wall thickness measurement. There are companies offering on-line systems, but these are primarily intended for PET and lightweight containers. We are presently researching nuclear and magnetic measurement techniques.

## ◆ Capacity Measurement

The effective capacity of a container can be calculated from the rate of pressure rise during leak testing. The accuracy is affected by the container flexibility, but the data can be used to automatically set the leak tester parameters which reduces the time spent taken during initial setting up

## ◆ Improving Bottle Packing and Downstream Automation

As the container leaves the leak tester it can be automatically fed to a system intended to reduce the time spent by personnel to pack bottles.

### Collating/Packing Tables

We can offer a range of collating tables that integrate with the control system of the leak tester, and provide a low cost method of packing bottles into trays, boxes or bags.

### Bottle Diverters

For many applications bottles are "scramble packed" by allowing the bottles to fall into open boxes. We can reduce the frequency the operator attends the machine by diverting bottles into another box when a pre-set count is reached

## ◆ Conveyor Systems

We can offer dozens of tried and tested conveyor configurations. These are capable of merging bottles from twin station machines, feeding labelers, spin trimmers, flammers and a variety of other downstream processes. Request our technical bulletin BM 007 "Improving Automation In Blow Moulding"

## ◆ Pressure vs. Vacuum

All our testers can be supplied to test at specific pressures or vacuum. We can provide calibration certificates for applications where the containers are destined hazardous chemical use and are U.N. certified