

IN-MACHINE LEAK TESTING

SPECIAL SYSTEMS FOR INSTALLATION IN THE DEFLASHING PUNCH AREA

Of all leak testing methods, "In-machine" systems have been given a mixed reception by the worlds blow moulding industry. Despite the obvious benefits of these systems, there have been many operational difficulties in using this test method. Most problems have related to initial set up and the difficulty of making adjustments when the blow moulding machine is in production. By analysing customer feedback we have been able to design the features that make this technology a practical tool for the modern production environment.

Key Features

- Easy to set up - no conveyors to adjust
- No problems testing "unstable" bottles
- Unique SureSeal® test head automatically corrects for neck misalignment
- Manual or automatic self-test function simulates leaky container
- Various reject methods to suit all machine types
- Valves use the latest ceramic slide and piezo electric technology for over 100 million operations
- Many optional tests including blocked-bore, residual flash, missing IML labels, colour, opacity, and translucency can be supplied



The BFB-1 Leak tester was specifically designed for the Fisher-Muller BFB range of blow moulding machines. Models are available for many other leading makes of machines. Particular emphasis was placed on making the unit easy to set up by providing manual inputs to step through the sequence prior to starting the blow moulding machine.

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Fitting a leak tester inside the deflash area of a blow moulding machine presents some interesting design challenges. For example, special consideration needs to be given to making the test head easy to adjust, preferably without having to stop the machine. It simply is not acceptable to have to stop the machine just to make minor "fine tuning" adjustments.

As it is not possible to place a test container into the leak tester it is also necessary for the system to incorporate some type of "self test" function.

Should You Go In-Machine?

Yes if you produce bottles that cannot possibly stand up.

Examples are "hook" shower gel bottles, "Tottles" i.e. tube/bottles and shoe care bottles.

These are perfect examples of success stories for the in-machine test method.

Where does the test head assembly fit?

There are two basic choices:

In the "deflash" position

Most modern blow moulding machines have a gripper that holds the bottles in a position where a punch tool crops off the top and tail flash. By placing a test head assembly directly above the bottle neck, the leak test can take place as soon as the flash is removed. The main disadvantage is that it is normal to delay the punch until the flash is brittle and this reduces the time available to do a thorough leak test.

In the position one cycle on from the deflash position.

By extending the "punch nest" the leak tester can use all the machine cycle time which results in better hole detection. If the bottles to

be tested are "stable" i.e. can stand up, then it is also possible to place the test head in the position where the take out gripper bar places the bottles.

How are faulty bottles rejected?

This is totally dependant on the type of machine the tester is fitted to. We do not recommend that bottles are rejected directly to the scrap conveyor.

You need to look at what is causing the problem e.g. contamination, poor neck finish, bad weld under the handle etc. etc. A leak tester is to help you make good quality bottles, not just reject bad ones.

Leak Testing in Other Downstream Processes

We have also supplied "in machine" leak testers for silk screen and tampo printers, ultrasonic and hot plate welders, and special purpose finishing machines.

What Next?

Call us! This type of product requires engineering to your machine, and there may be applications where this test method is not suitable.

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