

Sun Pharma develops machine for testing drug drop size

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Pharma major Sun Pharmaceutical Industries has developed a machine for automatic drop size testing for measuring the weight of a drop of ophthalmic drug dispensed from a plastic container.

Sun Pharma is the first company to design and execute this machine and the company has filed critical products for regulated markets by generating data on this machine. This machine will be a benchmark to generate equivalency data in the future.

Ophthalmic products are generally packed in a three-piece plastic container. It is important to design a perfect nozzle tip, which will deliver exact volume of the drug when the user squeezes the bottle and dispenses the drug into the eye.

In regulated markets for ophthalmic products, the generic pharma companies need to show the equivalency of drop size as it has direct impact of drug assay.

The machine consists of two servo motors, a sensitive weighing balance, a printer, special probes to simulate human finger forces, pressure gauge, PLC and MMI.

The two micro servo motors fitted with special squeezing probes simulate the human finger operation. It has the capabilities to adjust both angle of dispensing and the squeeze force in order to measure the drop size of branded products and use that data to design the nozzle tip cap. The machine is also programmed to shake the bottle every time before it dispenses the drop to get uniform results.