

MultiDose® Workstation successfully handles the "impossible" at SmithKline Beecham

"A few years ago, demand for dissolution testing reached a point where we simply couldn't get the work done using manual methods," recounts Harnath Doddapaneni, Pharmaceutical Development Scientist at SmithKline Beecham Pharmaceuticals. "Our Qualification batch required that 130 dissolutions be performed within 13 days. The assignment appeared impossible."

Background

In vitro stability testing of one of SmithKline Beecham's new drug candidates triggered a search in the Pharmaceutical Development group for a better way to do dissolution testing. The protocols called for initial testing at five different strength levels, in four package configurations, and under three conditions. Using manual methods, a single scientist could complete only four or five tests per day. Because of time constraints—the batch had to be processed within 13 days – it was clear that some form of automation would be required.

MultiDose Workstation proves equal to the task, and then some

After reviewing their automation options, the group decided to evaluate Zymark's MultiDose Workstation, a product that appeared able to meet their need not only for high throughput, but for superior reproducibility as well.

The proof—and a successful outcome—came quickly. "With the MultiDose Workstation, we were able to perform 12 dissolutions per day. We actually completed the project two days early!" said Mr. Doddapaneni.



Harnath Doddapaneni at Zymark's Open House, ISLAR, 1998. For his high-throughput success using the Zymark MultiDose Workstation, Harnath was honored with Zymark's first Gold Productivity Award in 1996. His continuing work led to a 1998 Pioneer in Laboratory Automation Award.

In fact the approach was so successful that the group purchased a second MultiDose unit less than a year later, as well as Zymark's Tablet Processing Workstation (TPW). Recently, they added a new generation MultiDose Plus, which fully automates USP dissolution testing with paddles, baskets and sinkers. As for the original system, three years later it continues to run 24 hours per day, 7 days per week.

Faster, more confident decision making

While increased throughput was the immediate objective, the Development group has also been able to capitalize on the ability of the MultiDose system to generate high quality, reproducible and correlative data. Because the data

generated using automated procedures has proven so reliable, management is able to make decisions at a much earlier stage in the testing cycle.

Six teams share a single automated testing lab

Six departmental teams share the automated dissolution testing lab, which operates on a 7x24 basis. As the de facto "Technology Champion" among all the groups, Harnath Doddapaneni's responsibilities now include training new team members on the MultiDose and TPW workstations.

"But there is one small downside to all this," he confides with a smile. "Once they're trained on the MultiDose system, they don't want to go back to manual methods."