

Application Note Semi-Automatic dye batching

Client: Kayser Hosiery

Location: Broadmeadows, Victoria

Summary: Semi-automatic batching of multiple dyes using the PR1713 Batch controller and a Sartorius combix stainless steel scale

Kayser hosiery were batching their dyes using manual ball valves and a simple scale. The accuracies they were achieving from this method was not good enough to achieve consistent colour results. Further more when a batch had been completed there was no documentation of the amounts that where filled, making quality assurance impossible.

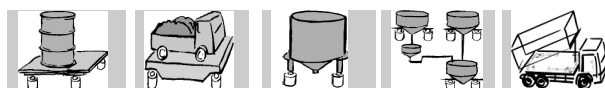
KIW designed a semi-automatic system to batch more accurate and traceable amounts of dye. The KIW system used a PR1713 system controller with multi-component batching software installed, connected to a sartorius combix scale. Printouts were made of each batch as they were completed, this allowed the accuracy of each batch to be checked before it was added to the product.

The operation of the batching system was simple:

- Put the bucket on the scale
- Press the button for the product to fill
- Enter the setpoint on the PR1713 keypad and press enter
- When filling finishes remove the bucket

The PR1713 system controller had an I/O card installed to operate 7 solenoid valves used to start and stop the filling process. The PR1713 in-built serial port was used to communicate to the printer. The Batching software in the PR1713 was customised to allow simple push-button start for each component. The print format was also customised to meet the documentation requirements for kayser.

Using the PR1713 system controller ensured a smooth transition from the manual system to the semi-automatic system. The in-built 2 Line LCD display was used to guide the operator through the batching process, and to provide feedback while filling so the operator could check that the correct component was being filled, and the correct set-point was entered.





23.03.2004	Material	Setpoint	Actual
12:53:27	DEFOAMER AD	1000g	1001g
12:54:02	MULTISCOUR G	2100g	2100g
12:54:58	RICCILEV	400g	400g
12:55:30	ACIGEN BW	1500g	1500g
12:56:04	TEBOLAN UF	850g	851g

Above:

Once all components of the batch were finished the operator could simply press print to print the batch report.

Left: The fully stainless steel combi scale base from sartorius is right at home in this wet environment, while being surrounded by corrosive chemicals.

Kayser hosiery can now run their dye batching system with confidence that they will now achieve consistency in their batches. With the rugged sartorius combi scale and the PR1713 system controller Kayser can rest assured they have a system which will serve them well for many years to come.

The flexibility of the PR1713 System Controller used in this application makes it ideal for almost any weighing system including:

- Check-weighing
- Batch control
- Flow control
- Filling Systems
- Blending Systems
- Truck weighing

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