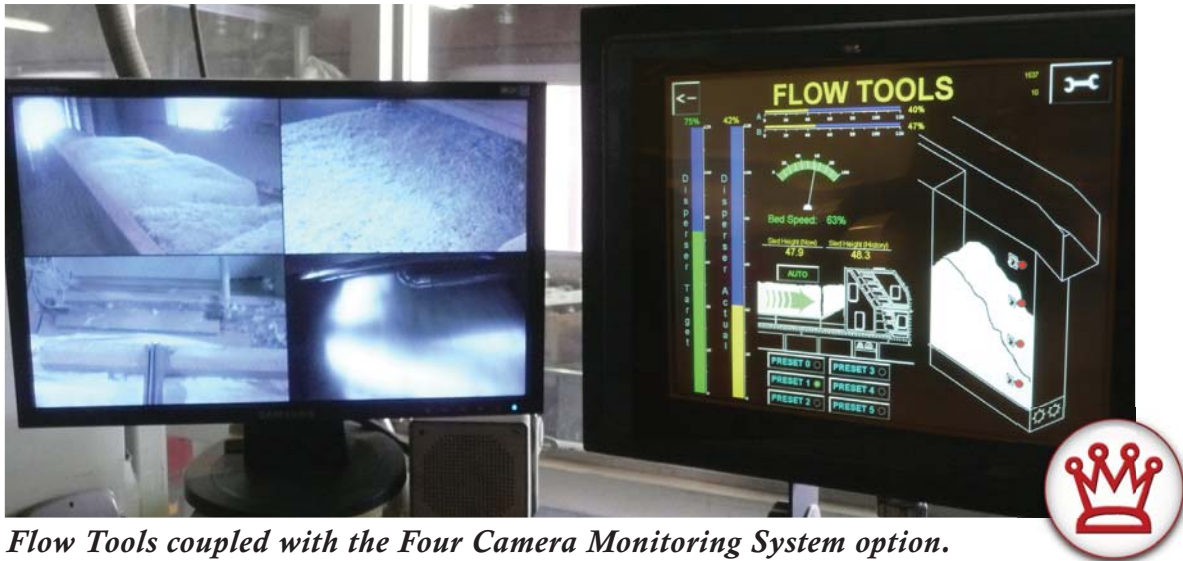


FLOW TOOLS

Overview

Over a Decade of Research and Development Brings Flow Tools to your Gin.



Flow Tools coupled with the Four Camera Monitoring System option.

Since its invention in 1794, inventors and engineers alike have been trying to figure out ways to automate the cotton ginning process. Significant strides have been made in many areas including module feeders, heaters, ginstands, presses and bale strapping just to name a few.

More recently, the most elusive beast of the gin automation world has been automatic flow control. Simply defined, automatic flow is maintaining optimal capacity in all gin stands while controlling the rate at which cotton feeds into the plant. One notable shortfall of many automatic flow products is that they perform best at gins with feed controls. When a gin has removed their feed control, they find that they are reluctant to ever return to using a feed control, which restricts cotton flow significantly. This choice is a difficult one for a well-managed gin. They can restrict their maximum capacity by using a feed control or they can protect their gin from unpredictable surges that can cause chokes when they are ginning without a feed control.

Samuel Jackson engineers have designed a new automatic flow control product that's suitable for a wide assortment of modern gin layouts. Flow Tools combines the Moisture Mirror's flexible user-defined settings with over a decade of research and development to put you in control of automatic cotton flow in your gin. A gin can enjoy the benefits of feeding their gin without restriction while resting assured that unexpected surges and surprises are taken care of faster than any human can respond.

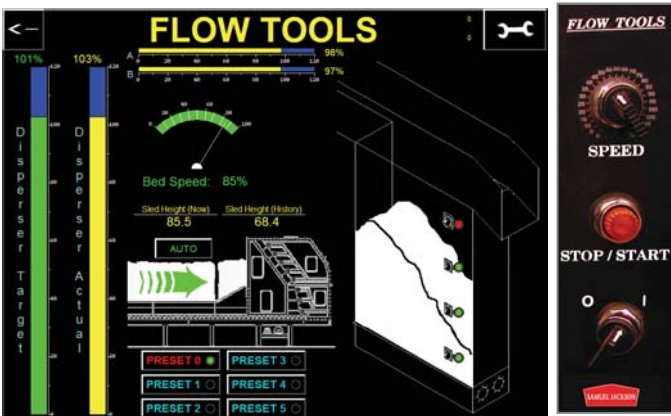
FLOW TOOLS

System Components

Flow Tools is an innovative product that's easy to use and understand. The operator simply sets the Flow Tools Setpoint Selector on a conventional dial near the touch screen. Flow Tools maintains that setting by using information from the patented cotton volume sensing sled on the conveyor belt, Flow Analyzer sensors on cylinder drive motors, and level switches on the live overflow. This information is processed with user-defined settings that allow a completely custom automatic flow control solution for many gins.

Each Flow Tools System includes:

- 15-inch Color Touchscreen Operator Interface with PLC controls
- 3 - Flow Analyzers for the module feeder and first stage inclined cleaners
- Height Sensing Sled that mounts to an existing belt conveyor
- 5 - Cotton Level Switches in the live overflow



Operator Interface



Flow Analyzers (3)



Height Sensing Sled

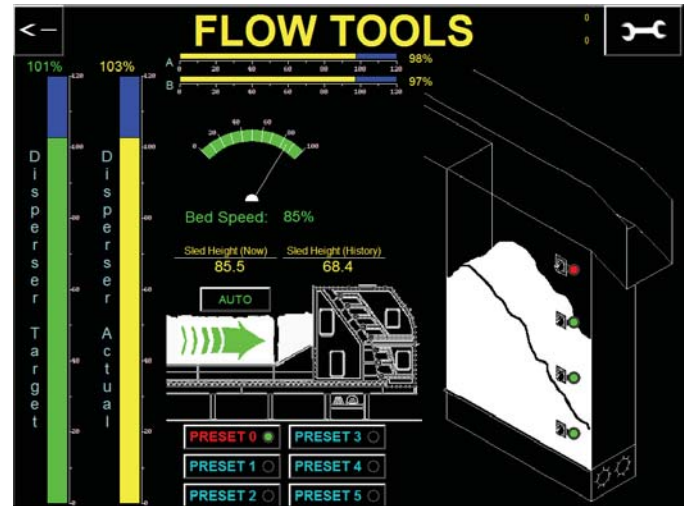


Cotton Level Switches (5)

FLOW TOOLS

How It Works

Flow Tools is an innovative product that's easy to use and understand. The operator simply sets the Flow Tools Speed Selector to a Flow Analyzer Target for the module feeder's dispersing cylinders. Flow Tools maintains that target and uses additional information from the Height Sensing Sled on the conveyor belt, Flow Analyzers on the inclined cleaners and cotton level switches outside the live overflow. This additional information is compared to user-defined settings that allow a completely custom automatic flow control solution for many gin.



Flow Tools Home Screen.

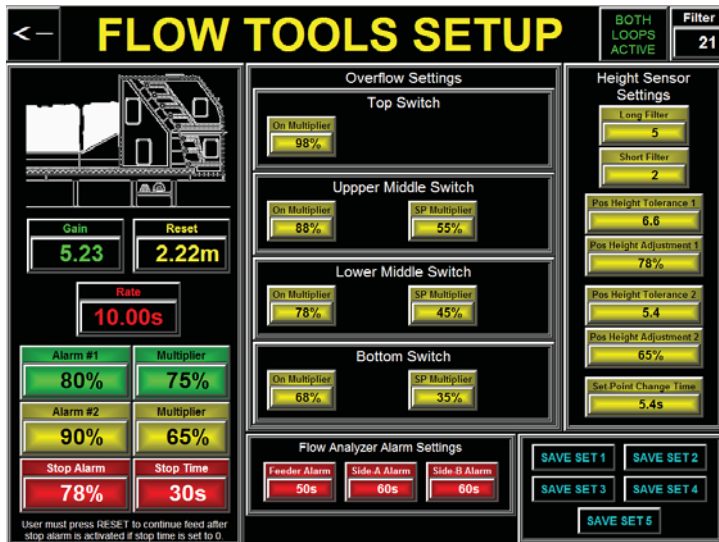


Flow Tools works with a gin's existing module feeder controls.

Flow Tools doesn't alter existing module feeder controls. Modifying a system that works creates unforeseen problems and confuses operators that are comfortable with their existing setup. Flow Tools sends a speed signal to the module feeder bed via two wires. Instead of the ginner setting a bed speed with a speed potentiometer or a touchscreen, Flow Tools does it automatically. All existing module feeder functions and features are preserved.

FLOW TOOLS

Setup, Tuning and People



Flow Tools Setup Screen.

Flow Tools includes many user-definable settings to customize the system for your gin. Sam Jackson technicians help you initially set up Flow Tools while teaching personnel how each parameter works. After the initial setup, Flow Tools will be operational, but there's no way to replicate cotton flow in your gin like real ginning. Fine tuning will be done by ginners through experience with the system. Every adjustment will move the system closer to seamless integration into your operation. The tuning period may take a few days to a couple of weeks depending on the operation and gin personnel.

As with any product in your gin, don't underestimate the people requirement for a Flow Tools System. Samuel Jackson requires that at least two people are trained by our technicians on Flow Tools setup, tuning and operation during commissioning. Flow Tools is a product that will ultimately require less ginner involvement with flow control, but understanding the system is the only way to get there. In the right hands, Flow Tools can significantly improve consistent cotton flow in your gin allowing faster and more profitable ginning.



Ginner adjusting Flow Tools.