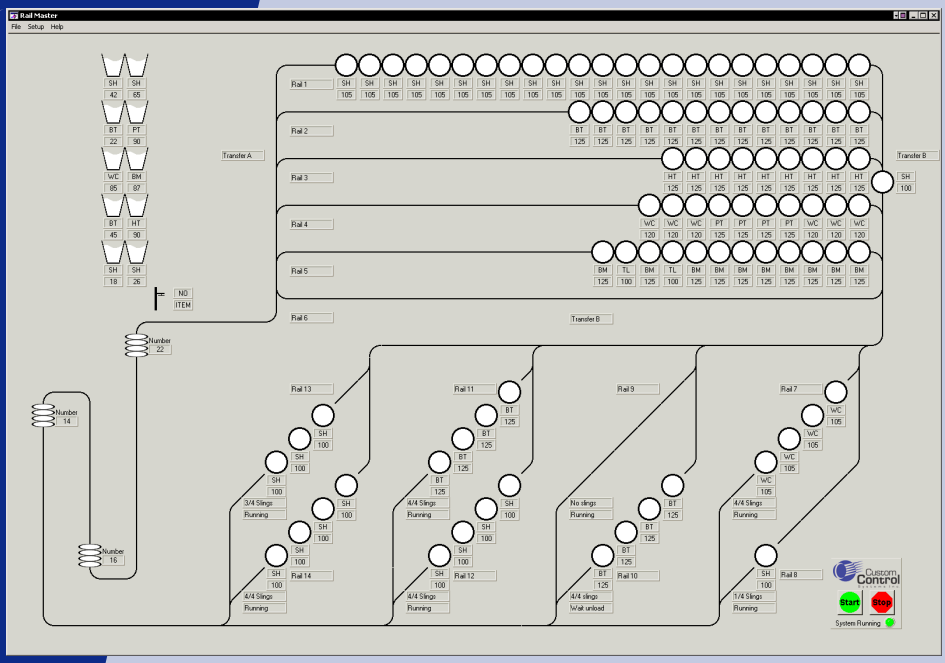
Custom Control Systems Inc.

Rail Master

Automated Rail System



Historically, industrial laundries are labor-intensive, high-stress operations. **Custom Control Systems** has changed that.

RAIL MASTER FEATURES

1. Provides a graphical display showing the contents of the rails and the sorting system, as well as the status of any washers the system delivers slings to.

2. Each sling is shown on the display, with a status block showing its contents and weight.

3. Sorting system display shows the contents of each sorting bin and amount of each item sorted.

4. Queues slings to be washed based on daily production quotas. These sling queues can be edited at the computer to meet special production needs.

5. When queuing slings, the system uses sling age - the amount of time the sling has been on the rail - to determine which slings to include in the next load.

6. Automatically loads open-pocket and continuous batch washers; can send item, customer, weight and batch information to the washer or to a washdeck automation system.

7. Includes production reporting for soil sorting and delivery to washdeck.

8. Remote display provides a copy of the rail system screen on a manager's desktop.

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SYSTEM OVERVIEW

An automated rail system addresses three issues: (1) classifying and storing soiled items, (2) selecting items to be washed, and (3) delivering those items to the washers.

1. Classifying and storing soiled items Soiled items are manually sorted into chutes. When the weight or piece count in a sorting chute reaches the preset amount, the chute control will sound a signal and activate a red light to indicate that the chute is full. The chute control will then ask for permission to unload. If the sling loading conveyer is available, the system will tell the chute control to unload, and tell the lift control that there is a load coming on the conveyer. The sorting lift control will run the load up to the end of the conveyer, and, if a sling is available, automatically load the sling. The rail system computer will automatically determine if it is ready to accept the sling, and determines which storage rail the sling needs to go to based on the item in the sling. If the system is ready to accept the sling, it will instruct the sorting lift control to release the sling.

2. Selecting items to be washed The rail system computer automatically selects items to be washed based on daily production quotas. The list of items to be washed is shown on the computer display, and can be modified to meet changes in demand. Sling selection will incorporate the concept of "sling age" – slings that have been on the rail for a long time will be given priority over ones that have been up there a short time.

3. Delivering items to the washers The rail system computer automatically calls off slings from the storage rails to fill production quotas. The rail computer communicates with the tunnel or open-pocket washers to pass the item code, customer code, weight and piece count for the sling about to be loaded.

Slings wait to be loaded into open-pocket washer/extractors on a CCS automated rail system.

Each **sorting chute control** manages a pair of sorting chutes. Slings can be loaded by either weight or piece count, with separate settings for every item in the system.

DESCRIPTION OF COMPONENTS

Sorting Chute Control Each sorting chute control operates a pair of sorting chutes It uses light frames mounted on the chute to determine the number of pieces sorted, or load cells to determine the load weight, and signals the operator when the chute is full.

Sorting Lift Control The sorting lift control operates the sorting lift and sorting chute unloading conveyer. It also communicates with the rail system computer to manage the process of sending slings to the storage rails.

Washer Interface Control The washer interface control provides weight, item, and customer codes to the tunnel or open-pocket washers so that they run the correct wash process.

Distributed I/O Modules The distributed I/O modules allow the rail system computer to control the rail system. Each module can control up to 12 relays for switches or indexers, and can monitor the status of up to eight photoeyes, proximity swiches or limit switches. The small size of the distributed I/O modules allows them to be mounted directly to switch frames or lifts, increasing the opportunities for pre-assembly of the system. Each module requires only power and RS-485 communication wire from the main computer, greatly reducing the amount of wiring that needs to be done on-site.

Rail Master Computer Software The centerpiece of the entire rail system, the Rail Master computer software, in concert with the distributed I/O modules, operates the rail system. The Rail Master software provides a display of the current rail contents, manages the wash queue, sorts new slings coming into the system, and handles delivery of slings to the washers. The rail master software also contains the item code setup and daily production setup.