

Kanawha Scales & Systems

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MODEL 4S-55

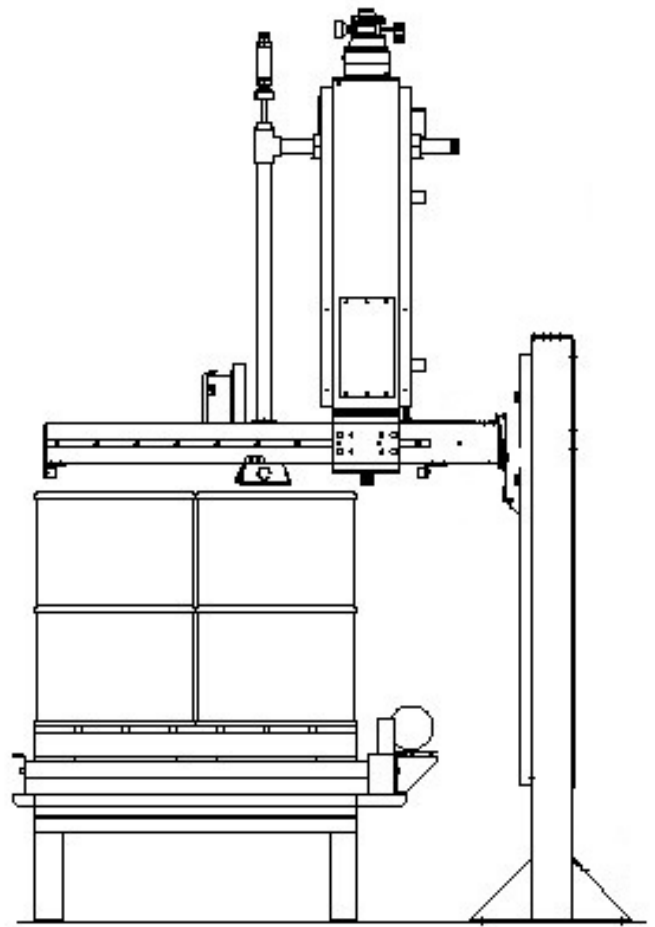
The model 4S-55 is designed to provide accurate, subsurface, liquid filling of 55-gallon palletized drums and larger totes.

KSS subsurface fillers provide a unique programmable product level tracking system to minimize foaming, reduce drips and maintain a clean lance.

The model 4S-55 is made up of a Robust 304 stainless steel structural construction and 316 stainless steel wetted parts. It incorporates an Allen Bradley PLC and HMI based KSS1400 control system. It has built in safety features to guarantee safe clean and accurate filling.

Standard Features

- General purpose Non-Hazardous area electrical classification
- KSS1400 controller hardware
 - Allen Bradley CompactLogix PLC with Ethernet IP
 - Allen Bradley PanelView-7 Graphical user interface with Ethernet IP
 - 24V DC controls
- Software
 - User friendly menu driven system
 - Recipe programming and saving of all filling set points
 - Slow-Fast-Slow fill mode programming
 - Automatic preact calculation
 - Resume capability to continue filling aborted fill cycles
 - No Drum No Fill feature to prevent product spillage
 - Flow rate monitoring
 - Cycle time monitoring
 - Net weight Over/Under fill monitoring
 - System Alarm display, plus historian
 - Weight indicator control, Zero, Tare, Gross/Net
 - See KSS1400 controller manual for full standard features
- Air motor and 1 ½" ball screw driven SUB-SURFACE FILL RAISE BY WEIGHT SYSTEM. This system will fill in subsurface mode keeping the lance at a programmable position. Filling using this method eliminates foaming and keeps the lance clean.



**Conveyor Optional*

Standard Construction

- **304 stainless steel structural construction**
- 316 stainless steel wetted parts (Lance and pipe).
- 304 stainless steel control NEMA-4x enclosures
- Two-piece 316 stainless steel ball valves
- Foot valve at end of lance for minimizing drips
- Pneumatic drip cup
- Fume collection hood with sight glass and 2" hose connection
- Drum bung alignment tool
- Teflon seals and seats
- Sealed bearings and cam followers
- Carbon steel ball screw drive system
- 304 stainless-steel low-profile scale
 - Raised Platform
 - Sealed load cells
 - 1 part in 5,000 resolution (5,000 LB X 1.00 LB)
 - 5,000 LB capacity

- Two ball valve system for Slow-Fast-Slow fill modes
- Hand operated lever for Fill Start/Stop operation

Available Options

1. Electrical area classification Options
 - Class-I Division-I area package
 - Class-I Division-II area package
2. Safety Options
 - Stanchion position detection
3. Environmental area Options
 - Corrosive area package
4. Scale Base Options
 - Carbon steel scale base
 - High Capacity scale base
 - High precision scale base
5. Lance Options
 - Sanitary Lance
 - Corrosive
 - Quick Disconnect
6. Enclosure Options
 - Carbon steel
7. Structural Options
 - Dual Lance
 - Hinged wiper ring housing
8. Weighted Drip-pan
9. Purge through lance rod
10. Manual container grounding and monitoring
11. Automatic container grounding and monitoring
12. Overfill detection
13. Weighed container seal fume collector
14. Accessories
 - Bung tooling
 - Work platform
 - Scale mount
 - Line voltage regulator
 - Step-down transformer
 - Serial Printer
 - Spare parts
15. Conveyor
 - Extensive Conveyor Product Line available to complete your System

Sequence of Operation

- Operator programs KSS1400 for fill presets in program mode and switches to run mode
- System is ready for a fill cycle and displays "Ready to Fill"
- Operator moves the pallet of drums or a single tote onto the scale.
- Using the swing arm brake release and visual alignment aid, the lance is centered over a bung opening.
- The Operator pulls down the Start Fill lever
- Controller checks for presence of container on scale and automatically tares the container weight. If container is not detected (this is accomplished by checking the weight on the scale) the cycle is aborted automatically (Start Lever is automatically activated to the up position) and an error message is displayed on the PanelView plus screen.
- The lance is lowered to the bottom of the container monitoring for lance misalignment.
- System opens the foot valve and ball valves.
- System starts the fill cycle in slow fill mode until the slow fill target weight is met.
- System switches to fast fill mode until the final slow fill target weight is met.
- System switches to slow fill mode until target weight is met.
- The lance will raise by weight tracking the product level during the entire fill cycle.
- System closes the foot valve and ball valve.
- System starts raising the lance to the top position.
- System delays for settling delay time to give product to settle down.
- System recalculates preact value.
- System activates the Start lever to the up position.
- System sends fill data through the serial port on the PanelView Plus.
- System is ready to fill next container.