



SPECTRUM COLOUR SORTER S-2001 COLOUR SORTER

Rev. 00 – 05 March 2002

THE FEED SYSTEM

The product to be sorted is fed to the Hopper located at the top of the machine by means of a Bucket Elevator or through an overhead Silo.

The flow rate of the product is maintained by means of a digitally controlled Vibratory feeder which is placed below the hopper. Each set of rollers has its own respective vibratory feeder for optimum control of the flow rate.

THE PLATFORM

The main frame of the machine is fabricated from painted mild steel and allows easy access to all functions and enables circuit boards to be plugged in. The frame design restricts the collection of dust and debris and all parts are flush fitting thereby improving sanitation.

The contra rotating rollers are made stainless steel and are driven by a polyurethane rope belt drive system which is coupled to a three phase electric motor.

DESCRIPTION OF THE SORTING PROCESS

The product that is fed to the rollers by the electromagnetic vibratory feeders slides down the contra rotating rollers and is singulated and streamlined when it is delivered into the optical chamber where it is illuminated by means of halogen lamps.

The product passing through the optical chamber is scanned by the Optical Cameras located at 360 degrees thereby providing all round viewing of the product.

The resultant signals developed are processed by the Microcontroller and the defective product is identified and ejected out of its path by means of ultra fast pneumatic ejectors.

The pneumatic ejectors are fed with compressed and filtered air which is maintained at a constant regulated pressure by the Filter Regulator Assembly.

The defective product that is rejected from the stream of material is collected separately at the bottom of the outlet receptacle and the clean product passes through the exit tubes and is collected in the front of the machine.

The quality of accept and reject product is controlled by changing the sensitivity levels of the machine using the Control Panel on the front fascia of the machine.

THE EJECTOR SYSTEM

The air ejector valve system comprise of high-end solenoid valves that can fire at an interval of 2 milliseconds and the air pressure is adjustable from 3 to 4.5 Bar. The Control system controls the ejector overlap and over blast as well as scans the ejector operations for any failure which is indicated on the vacuum florescent display on the front panel of the machine.

THE AUTO CLEANING SYSTEM

In order to ensure that there is no drop in efficiency during the operating cycle of the sorter there is air blow system which cleans the dust off the glass curtain in the optical chamber thereby providing a clean viewing area for the cameras. The duration of the air blast as well as the interval between air blasts is user set.

THE USER INTERFACE

The user interface is the complete front fascia of the Front Panel which has a feather touch menu guided operation which is displayed on a 2 x 40 Character vacuum florescent display.

Operator controls are for the sake of simplicity are confined to two settings, one for vibrator feed rate and sensitivity respectively. There is a three-tier security system with passwords to prevent any unauthorized tampering with the process controls.

OPERATOR INTERVENTION

The machine is provided with an air gun that enables the operator to direct a blast of air all over the machine to blow off dust. This device is a high quality product having fine aesthetic looks and functional efficiency.

The information presented in this document is believed to be accurate and reliable to the best of our knowledge. Our products are subject to constant improvement and features may vary in future offerings. We request that the information provided be kept confidential.