



Sorting and Feeding of Casings



Feeding Systems
Reference-No.181



Interface to Customer Machine
(Double Separator)



Operation Description:

Sector

Automobile Suppliers (Manufacturers of ABS/ESP Systems).

Workpiece

Casings for ABS/ESP brake pressure regulators.

Performance Requirements

The casings are sorted and passed on two tracks to an assembly machine. A camera system checks for mingled types with a dimensionally identical workpiece with however a different quantity of grooves in the abutting face. In the case of mingled types a correctly functioning brake is not possible.

Discharging position

On two tracks, lying flat with the opening upwards.

Operation Description

The workpieces are filled into a bulk hopper and dosed into a bowl feeder. The casings are sorted into single tracks from the bowl feeder and passed to a linear feeder as accumulator. Connected to this single-track linear feeder, a separation station presents the casings to a camera system. The control task of the camera system is the differentiation of casings with one or two ventilation grooves respectively in the upper projecting face. The picture data-processing is based on an edge detection algorithm which inspects the entire annulus. Incorrect pieces are discarded from the process. Inspected passed pieces are moved to a second linear feeder. The valve casings are rolled away from each other on the linear feeder in order to distribute them to two tracks.

Feeding rate

On two tracks, each at 8 pieces per minute.

Control

All sensors/actuators are wired to one Profibus node. The operation-feed from the assembly station is controlled over the bus. Control cards with plug-in technology serve for the operation of the swing drives of the receptacle.

Elements of the Feeding system

Bulk hopper, bowl feeder, linear feeder, separation station picture processing system, linear feeder with separation to two tracks, Profibus nodes.

Execution

The whole feeding system is built upon a standard basis framework which is docked to an assembly machine as coherent module.

Contact

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Ventilation Channel Characteristics



Picture Analysis



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