

MAGNETIC AND NON MAGNETIC CONVEYOR BELT MATERIAL SORTING MACHINE

ABSTRACT

A sorting machine receives a bulk of work pieces or fasteners from a hopper unit into a feed station which align the fasteners into a single file for engagement to a transport system of an inspection station. Preferably, the transport system has a conveyor belt with a magnetic member disposed radially inward from the belt. The fasteners are preferably ferrous and thereby engage the conveyor belt via the magnetic field which penetrates the belt. The fasteners are thus carried along the transport system past a trigger sensor which sends a signal to a central controller to timely actuate a dimensional sensing apparatus which takes an image of the fastener and sends it to the central computer for dimensional analysis. If the fastener fails to meet pre-established guidelines the nonconforming fastener is ejected from the transport system via a reject mechanism. If the fastener conforms, it continues to move along the transport system, past a counter sensor and is then dropped off the conveyor belt of the transport system into a packaging station for ultimate delivery to the customer.