

# Ginger Grading System

## Diced Ginger Piece Sizing and Sorting System

Azitech Pty Ltd in Sydney, Australia, have developed a new and improved diced ginger grading system to upgrade the old system at Buderim Ginger Ltd in Brisbane.

The new scanning system uses nine digital cameras to scan the ginger pieces as they move along a series of conveyors. The pieces are then graded according to a particular program and then allocated to a series of sort bins. This allows Buderim Ginger Ltd to produce a range of different cuts for particular clients.

### System Features:

- Belt speeds up to 500mm/s\*
- Grading > 7000 pieces per minute
- System can easily be scaled up or down to handle different production requirements
- Automatic monitoring of sort bin status
- Warning and alarm notification for operators
- Four different sort grades \*\*
- Reliable and easy to use

### Benefits

- Increase in yield of particular grades
- Production process improvement
- Consistent piece grading
- Multiple product selection and configuration
- Reduced manual labour

### Grading System

All our inspection systems are based on robust machine vision cameras coupled with sophisticated analysis algorithms. The cameras capture an image of every piece of ginger as it passes through the inspection station. These pieces are then graded into a particular category and as they pass the appropriate sort bin they are blown off the conveyor into the bin. When the bins are full, the operators are notified and the system switches over to an empty spare bin without interrupting the production.

A range of additional information logging, database and reporting software is available. Due to the fact that each system is individually customised to the particular clients needs, almost any functionality can be included in the design to ensure that the clients specific needs are met.

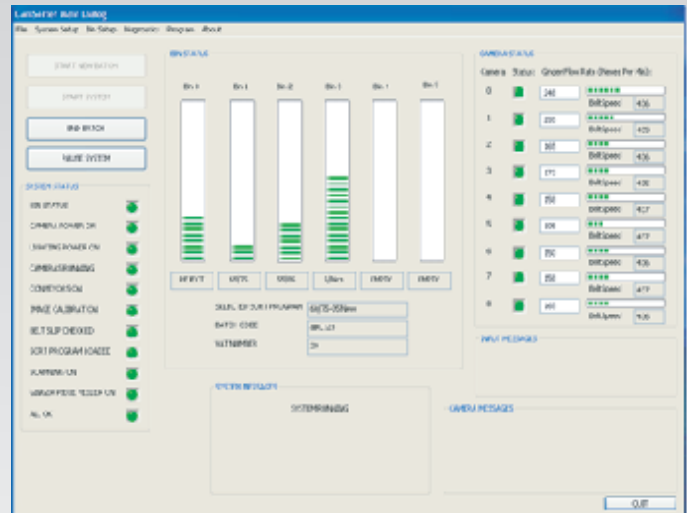
\* Belt speed could be higher, depends on density of pieces on the belt

\*\* It is possible to have more sort grades if required.



### Operator Display Interface

The grading system uses a personal computer to control the operation of the system. On startup, the system performs an automatic calibration startup procedure during which the appropriate grading program is selected and uploaded to the cameras. The cameras then run independently to grade the pieces and sort them into the relevant storage bins.



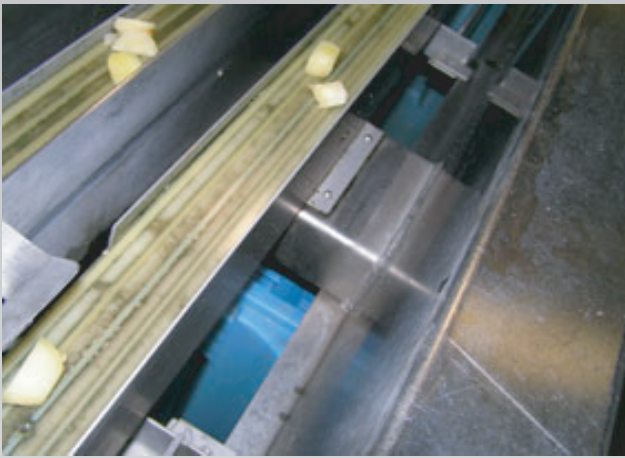
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Ginger pieces on vibratory feeder, being fed onto scanning conveyor belts



Camera scanning station



Ginger pieces on the sorting belt. Air jets are used to blow the pieces off these belts into the sorting bins



Pieces going into last sort bin. This existing conveyor and vibratory feed system was re-used with the all new control and scanning system. A complete new system could however be provided including all the product handling.



Sorting bins used to store the different grades of ginger