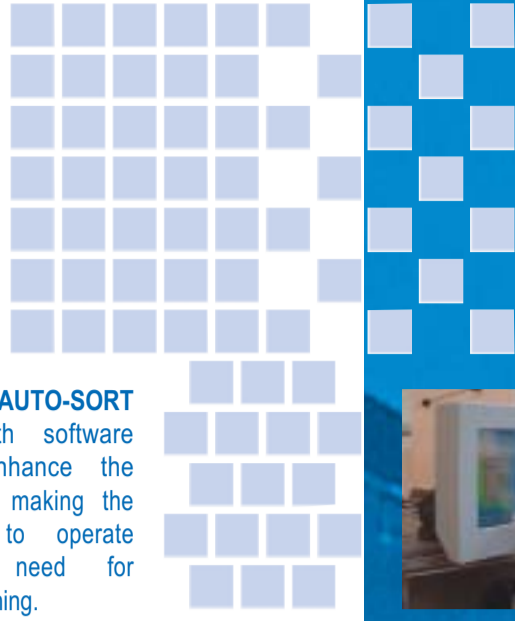
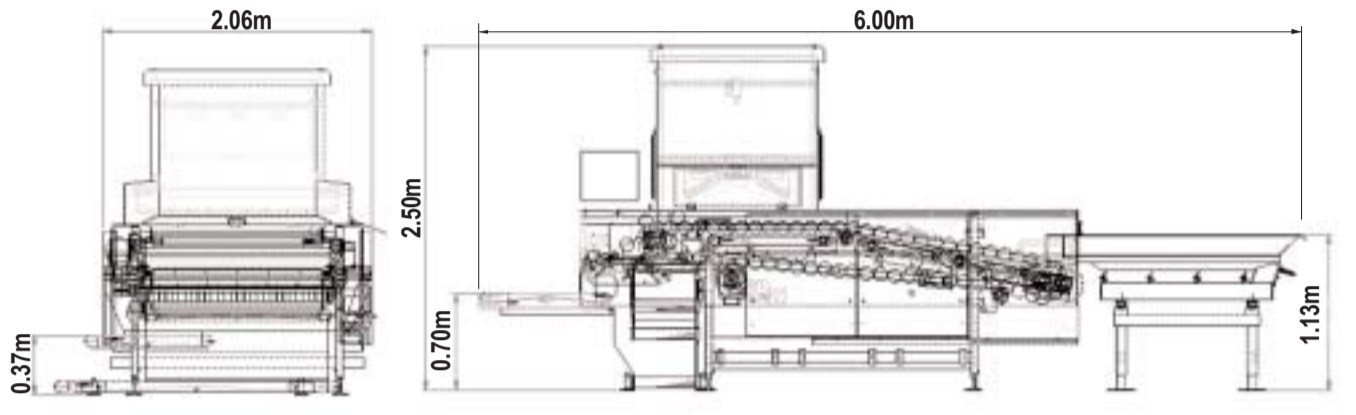




DDS1300ML AUTO-SORT



The DDS1300ML AUTO-SORT is supplied with software designed to enhance the 'human interface' making the system easier to operate removing the need for expensive staff training.



Machine Type Autosort Medium/Large
Model: DDS1300ML AUTO-SORT
Description: Defect Detection system for washed potatoes
Application: Quality sorting of potatoes with a size range of 35mm to 85mm
Capacities: Up to 20tph (depending on size range)

Specification
Frame Construction: Welded and bolted 304 stainless steel (316 optional)
Track: Blue Polystyrene rollers
Motors: 1.5kW main drive
 2 x 0.18kW roller spin speed
 0.37kW cleaning brush
 0.12kw drum motors for conveyors
 0.37kw drum motor for in line outfeed conveyor
Controls: Inverter drives for main and roller motors
 24ac control voltage
Cameras: 3 colour cameras with 3 chip CCD
Vision Computer: Intel 2.4GHz computer to analyse images
Lubrication: Automatic oiling of main chain
Cleaning: Powered cleaning brush with water spray bars
Feeder: Variable speed vibratory feeder
Air Components: Profibus valve system

R J Herbert Engineering Limited
 Middle Drove
 Marshland St James
 Wisbech Cambs
 PE14 8JT UK
 T: +44(0)1945 430666
 F: +44(0)1945 430487
 E: sales@rjherbert.co.uk
 W: www.rjherbert.co.uk

GB01

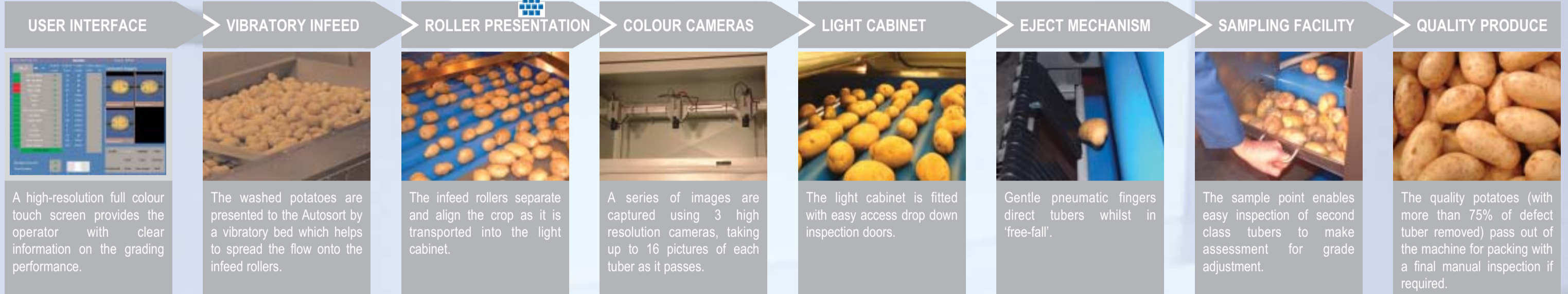


HERBERT

DDS1300ML AUTO-SORT

for Medium to Large Potatoes

"Reduces your labour requirement and gives excellent return on capital"



FEATURES

- Intake capacities depending on size and shape of potatoes: 45mm+ > 11tph, 50mm+ > 14tph, 55mm+ > 16tph and 60mm+ > 20tph.
- Ability to sort raw material with high wastage that is not normally suitable for high speed packing.
- Integrated feeder and main track.
- Simple transport system.
- Colour cameras for defect detection.
- Gentle pneumatic eject fingers.
- Stainless steel construction with food quality components.
- Defects sorted on: shape; size; greening; rot; spots; cuts; green colours, dark colours and skin discolouration.
- New software development enhances performance and ease of use.
- Sorting into three qualities.
- Options for remote operator station, diagnostics by modem and networking of multiple machines.

GRADING METHOD

The pictures of the tubers are linked in the computer to represent a series of views of each tuber. Each image is graded against the quality standard set in the machine by the operator. The tuber will be placed in the class matching the lowest quality picture.

GRADE PARAMETERS - SIZE



Sizing is possible by measuring the minimum square mesh, the maximum square mesh and the minimum and maximum length of the tuber.

GRADE PARAMETERS - QUALITY



NOTCH
Detects sharp dips in the surface of the tuber.



BUMP
Detects sharp peaks in the surface of the tuber.



ROT
Detects small dark patches typically dark rot, mechanical damage and growth cracks.



SKIN DISCOLOURATION
Detects medium size dark patches typically scab, old damage and growth cracks.



LARGEST SPOT
Detects the largest dark spot on the body of the potato and classifies according to percentage area.



SUM SPOTS
Totalises the dark spot on the body of the potato and classifies according to percentage area.



CUT
Detects dark lines on the surface and classifies according to length.



GREEN & DARK COLOURS
Detects specific user selectable shades of colour.



The HERBERT DDS1300ML AUTO-SORT is a vision based system for the efficient separation of defective produce. Defects are identified using colour cameras and image analysis software. The Auto-sort can typically remove more than 75% of defective tubers. Detectable defects are Green, Rot, Cracks, Cuts, Shape, Skin discolouration, Bruise, Mechanical damage, Scab, Soil, Black scurf and Silver scurf, Size and Colour. The detection rate will vary according to the overall skin brightness of the tubers. Machine capacity is affected by tuber size i.e. small tubers reduce the capacity. Washed potatoes are metered onto the machine from a vibratory conveyor and rotate under the 3 cameras. Potatoes classified as non-packable are ejected onto a waste belt. Top quality potatoes continue forward on the machine to a check grade station. Second class potatoes are deflected back on to a second belt. After setting the quality level for a new product run it is only necessary to check performance occasionally. Grade set-ups are stored for future use. The waste potatoes can be delivered to a conveyor at low level under the machine helping to keep clear access at the sides. A sample point is provided to allow ease of inspection of the second-class tubers. The capacity of the machine is designed to meet most packing requirements and gives a substantial reduction in labour requirement.

BASIC PRINCIPLES OF THE DDS 1300ML AUTO-SORT

- Product is singulated and aligned in rows on the combined presentation and transport system.
- Potatoes are rotated on rollers under long life fluorescent lighting with cameras taking up to 16 pictures of each tuber.
- At the point of taking the last picture the rotation is stopped and this position is used to track the tuber for ejection. A tuber to be removed is deflected by one or more pneumatic fingers as it falls from the roller transport system.