

## SORTEX® BioVision™ technology.

## Colour, shell and foreign material detection - all in one.



SORTEX BioVision™ technology is the specialist detection system from Bühler that has transformed the nut processing industry. Available now on SORTEX E and SORTEX F optical sorters for processors seeking simultaneous detection of shell, foreign material and colour defects - in just one optical sorting platform.

Featuring a unique configuration of detection technologies which includes **BioCam**™ combined with either **high** definition InGaAs<sup>HD</sup>, colour cameras, or both, SORTEX BioVision™ acts as a defence against harmful colour defects and foreign materials at all stages of the nut processing line. Whether for in-shell, natural, blanched or chopped applications, SORTEX BioVision™ technology has a zero tolerance approach for hazardous contaminants in the good product stream.













Walnut pieces

**Pistachios** 





#### **Natural Almonds**

SORTEX BioVision™ technoloy delivers exceptional removal of shell, both hard and paper shell, as well as hull from multiple almond varieties, leaving nothing but top quality kernels in the good product stream.





#### **Walnuts**

Discoloured, rotten, sceptre/membrane, shell and foreign material such as sticks, stones, glass and plastics are removed effortlessly from both walnut halves and pieces.





#### **Pistachios**

Hazardous foreign materials including shell, sticks, stones and glass as well as light, dark or rotten kernels are removed with pinpoint precision and accuracy.





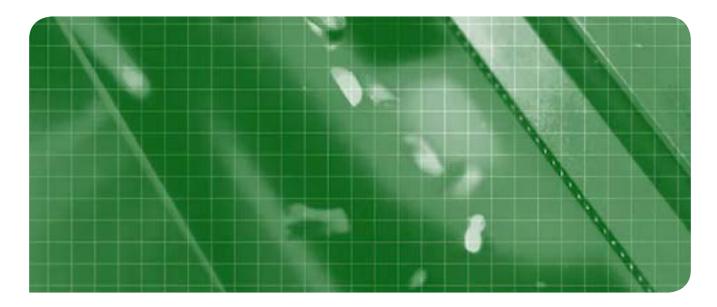
### **Natural Hazelnuts**

SORTEX BioVision™ technology delivers excellent detection of shell, wood, sticks and other foreign materials and colour defects for only the highest quality hazelnuts fit for further processing in snacks, milks, spreads and confectionery.

Accept Reject

### BioCam™

## Advanced shell detection.



Bühler's revolutionary BioCam™ technology is designed specifically for shell detection and nothing else. It works by analysing the spectral and spatial differences between shell and nuts which are typically the same colour and cannot be detected using visible camera technology alone.

The breakthrough technology is capable of detecting shell fragments as small as 2mm and up to 50% smaller than other industry solutions today. It does this reliably, accurately and at high speed with next to no loss of good nuts – setting a new safety and quality standard for the nut industry.







Soft shell



Shell fragments



Membrane and attached membrane



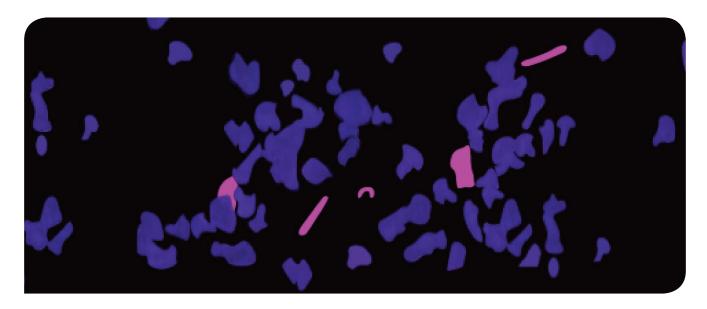
Hull



In-shell

## High definition InGaAs<sup>HD</sup>.

# Near-invisible foreign material detection.



The next generation infrared detection technology from Bühler now comes in high definition with double the resolution to detect foreign materials down to half the size. With twice as many pixels, InGaAs<sup>HD</sup> detects the smallest pieces of hazardous materials that cannot be seen in the visible spectrum – offering an added layer of assurance for nut processors.

High definition InGaAs<sup>HD</sup> detects all types of foreign materials, whether its shell, husk, sticks or stones from the harvest or glass, plastic and packaging materials from transportation or further processing.



### Colour cameras.

# Detecting visible and harmful defects.



Bühler's sophisticated colour cameras have been at the forefront of pioneering optical sorting technology for decades. Designed and custom-built in house, they remove a wide range of gross and subtle colour defects including aflatoxin contaminated kernels from multiple nut varieties.

Even nuts with the most minute visible blemish such as yellow discolouration, light and dark spots, skin-on and shrivelled kernels can be removed with pinpoint precision and accuracy to help processors meet the most stringent quality standards globally.











Colour grading

Gummy

Resin

Mould

Cross contamination

# Technical specifications.

## Model variants.

The **SORTEX BioVision**™ detection system is available as an upgrade on existing SORTEX E1C optical sorters or as on option on the SORTEX E1C and SORTEX F range of optical sorters.







SORTEX F

### **Product options**



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