

# SORTEX E1C Optical Sorter.

Engineered for  
precision sorting.



# Redefining concepts and setting standards. Engineered for precision sorting.

The latest addition to the successful range of Bühler optical sorters, the SORTEX E1C sets new standards in hygiene, precision sorting and consistent yield for the food processing industry. The SORTEX E1C truly reflects the Bühler tradition for innovation and leadership in technology, and with over 65 years of experience in the industry, Bühler continues to meet and exceed expectations to secure the highest levels of food safety.



Peanuts



Walnuts



Cashews



Pistachios



Beans



Seeds



Plastics



Confectionery

# SORTEX E1C at a glance.



- 1 Advanced inspection system**

High-resolution, ultra-low noise proprietary cameras can detect and reject product with subtle colour and spot defects.
- 2 Sophisticated Image Analysis**

Individual sensitivity and size controls detect foreign material. The system carries a selection of filter options, from blue to short-wave infrared (SWIR) wavelengths to enable the detection of specific defects.
- 3 Gentle Handling**

Curved "Accept" receptacle ensures gentle handling of delicate products, particularly when good product is fed on to a forward-running 'Accept' take-off belt.
- 4 Long Life, Serviceable Ejectors**

A long life, robust and easily maintained ejector has been specifically designed for the SORTEX E1C. The ejector, along with SmartEject™, ensures that after unwanted material is detected, it is removed efficiently from the good product stream with minimal loss of good material.
- 5 Construction**

Open design stainless steel construction for hygienic operation and easy cleaning.
- 6 Climate Control System**

This maximises stability by maintaining constant temperature in the optical cabinets and main control cabinet over a wide temperature range (up to 50° C ambient temperature). It requires the use of a water chiller unit.
- 7 Colour 12.1" Touch-screen User Interface**

The user friendly multi-language user interface means that complex computer skills are not required and operator training is fast and effective. The SORTEX E1C is supplied with an easily removable Perspex cover to protect the Graphical User Interface (GUI).
- 8 Pre-set Modes**

The SORTEX E1C has the option to save up to 100 pre-set and 100 user-defined product modes (recipes). Optional automatic optical filter changer is linked to product modes for instant product changeover.

# SORTEX E1C benefits.

## Enhanced sorting performance.

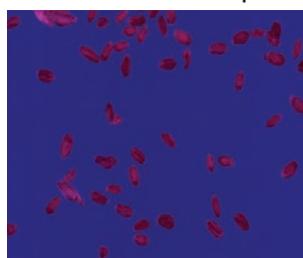
Engineered to satisfy current hygiene requirements set by the food industry, particularly within the nut sector, the SORTEX E1C has a stainless steel frame and an open design construction which allows easy access for cleaning and thorough wash down.

Equipped with cutting edge technologies from Bühler – high-definition, custom-built cameras, broad-spectrum lighting, shape detection and high pressure ejectors; the SORTEX E1C delivers the highest yield of unrivalled quality.

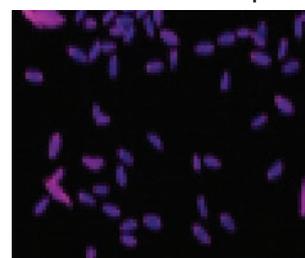
### Custom-built cameras, designed in-house: A combination of visible cameras and InGaAs Technology.

High resolution, custom built cameras can detect the subtlest of colour defects, resulting in an accurate distinction between good and defective product. A wider range of hard-to-remove defects and foreign material, such as shell, sticks, stones, sclerotia etc., can be detected by combining InGaAs Technology with visible cameras.

Visible camera frame capture



InGaAs camera frame capture



InGaAs Technology provides much better separation of good product from same colour foreign material, in comparison to the visible camera.

### Broad Spectrum Lighting: Viewing a wider range of defects.

Broad spectrum lighting enables viewing of a wide range of defects. The system carries a selection of filter options, from blue to short-wave infrared (SWIR) wavelengths, to enable the detection of specific defects. For example, in the case of blanched peanuts, yellow spot defects and sticks of similar colour to the peanut itself. In today's markets, this is an essential feature for many different product applications.

Broad spectrum lighting



### PROfile (Shape) Technology: Adding a layer of assurance.

PROfile Technology improves sorting accuracy by distinguishing good product from foreign material – by its shape – even when these cannot be distinguished within the entire spectrum of visible and infra-red light. PROfile technology, which detects the size and shape features of the product, can be used in combination with colour, to improve the detection of defects.



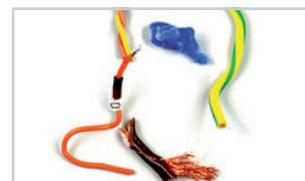
To remove sticks from peanuts



To remove butterballs from walnut halves



To separate over/under-length nuts



To recover wire from WEEE/ELV plastic residue

# SORTEX E1C technology.

## Maximum precision and efficiency.



### **Minimum product breakage**

A notable feature of the SORTEX E1C is the curved receptacle, which guides the good product down a gentle ski slope, preventing unnecessary product breakage.



### **Instant product changeover**

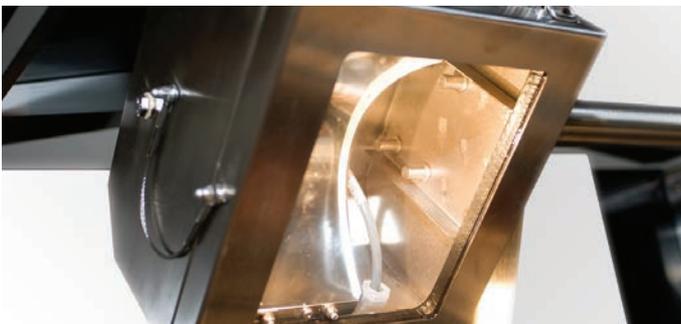
The control program allows users to store settings for different sorting requirements, to enable instant changeover from one product to another. The filter changer allows the system to switch between different filter wavelengths automatically, as different product modes are selected.



### **Improved product quality**

The SORTEX E1C in-feed vibrator has a built-in air leg which removes dust and loose debris from the product immediately before the viewing area.

This feature significantly enhances the sort quality in both the accept and reject channels.



### **Climate Control System**

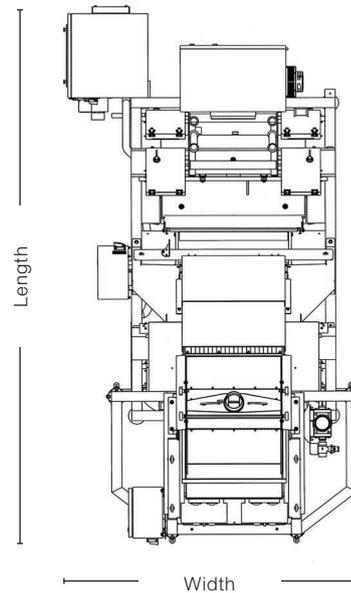
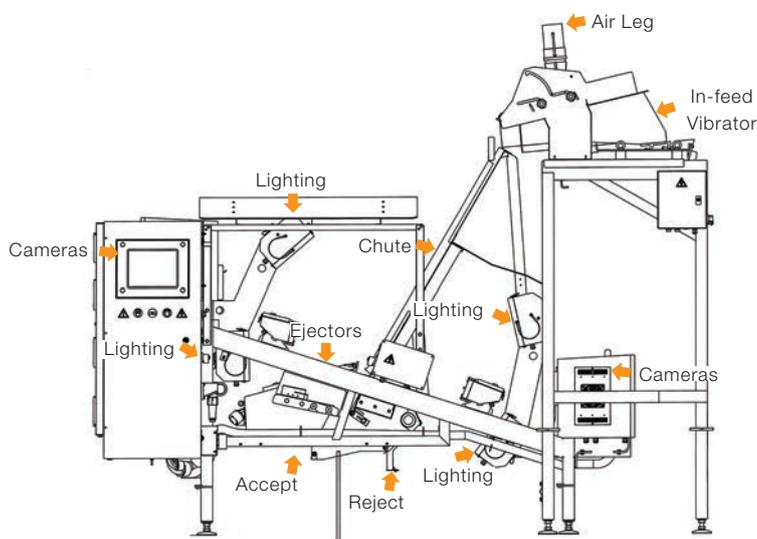
The SORTEX E1C has a Climate Control System fitted to the camera boxes to ensure stable and reliable operation in extreme temperature ranges.

### **Cost of ownership**

Inexpensive halogen lights are fitted for excellent product illumination and to provide low-cost of ownership.

# SORTEX E1C specifications.

## Technical details.



### Technical Details

	Power consumption (200-240 V; 50/60 Hz single phase)	Air requirements*
SORTEX E1C	2.5 kW (Total)	Typically 32 l/sec for colour sorting
Vibrator	1 kW (Total)	

### Dimensions and Weight

Machine (With Vibrator)	Width (mm, in)	Length (mm, in)	Height (mm, in)	Weight (kg, lbs)
Short Chute	1514, 60	3194, 126	2190, 86	680, 1500
Long Chute	1514, 60	3194, 126	2657, 105	680, 1500

\* The compressed air consumption of the sorter varies depending upon throughput and input contamination

### Features

- Stainless steel construction and open design
- High resolution visible cameras
- Optional InGaAs Technology
- Halogen Lighting
- PROfile (Shape) Technology
- Climate Control System
- Air leg built into the in-feed vibrator

### Benefits

- Hygienic operation and easy cleaning
- Detects and removes small and subtle colour defects and most foreign material
- Detection and removal of problematic foreign material
- A very stable solution giving flexibility in defect detection
- Allows additional removal of defective material
- Ensures consistent performance
- Improved handling of dusty products

# SORTEX customer care.

## Secure tomorrow's profits today.

Solutions and support to ensure that your optical sorter performs to maximum efficiency, delivering maximum productivity and making a maximum return on investment.

Bühler's worldwide Customer Care organisation delivers the highest quality local support by offering a variety of services under SORTEX Total Care\*.



### **SORTEX Total Care**

SORTEX Total Care offer customers the opportunity to create their own service package, composed of individual service features that best suits their needs.

Customers have the flexibility to create their most suitable programme - whether that covers just those areas of prime concern, or a fully-comprehensive cover.

Comprehensive cover is suitable for customers who require continuous operation of the optical sorter where the processing line is of the utmost importance. This way, customers can ensure that their investment is fully protected.

Customers can tailor their individual package from the following options.

#### **WearCare - Preventative Maintenance**

A fixed number of visits per year. During the visit an engineer will carry out checks, adjustments and when necessary replace consumable or wear parts.

#### **RepairCare - Emergency Repair**

In the unlikely event of the machine failing, an engineer will visit and repair the optical sorter.

#### **EjectorCare - Ejector Service and Repair**

When the ejectors reach their refurbish point, an engineer will visit to replace the ejectors with the appropriate number of units for the whole machine.

#### **AnywareCare - Anyware Health Check and Alerts**

The Anyware system allows the performance of optical sorters to be monitored remotely.

This diagnostic system facilitates a quicker response to any issues that might emerge. It automatically emails an alert message to the server, if an optical sorter develops a fault, or begins to operate outside normal working parameters.

An authorised engineer reviews the information in the alert, and advises whether adjustment is needed, or if the problem needs further attention.

### **SORTEX Spares Kits**

For customers who require spare parts available on site, Bühler's technologists have created appropriate spares kits for the different machinery available.

### **SORTEX Upgrade Kits**

Suitable for customers who are seeking to upgrade sorters with an additional module, features or software.

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