Advanced Sorting Solutions for IQF **Fruit and Vegetables**



Fruit and vegetables sorting from Bühler **Equipment and solutions**

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Bühler in partnership with processors An integral part of fruit and vegetables processing

Bühler is a leading global supplier of optical sorting solutions to the food and nonfood processing industries and has been at the forefront of pioneering optical sorting technology since 1947.

With a commitment to substantial investment in research and development, Bühler's proprietary sorting technology delivers excellent results in removing the most challenging defects and foreign materials (FM) in a wide range of applications.

Frozen fruit and vegetable processors can be confident of world-class performance when placing Bühler's optical sorters in their processing line whether after freezing, before the packing line or bulk to bulk.

Key benefits

- Unprecedented defect and FM detection.
- Most trusted optical sorting technologies in the European IQF market, according to leading brands.
- Specially designed with strict hygiene requirements in mind, for minimal risk of contamination
- Digital Connectivity with possibilities of remote access, IoT, data collection and analysis making your production smarter and more efficient.

2 Serious about food safety Simplifying your most challenging sort



Carrots

Major and minor color defects such as white, green and dark blemishes as well as FM including stones, insects, mice, plastic, wood, glass and cardboard can be moved from a variety of fresh and frozen carrot applications.







Peas

All types of color defects ranging from yellow, blond, khaki and nightshades are removed with ease using Bühler's advanced and custom-built color cameras. FM and Extraneous Vegetable Matter (EVM) such as pods, sticks, insects, snails, flower heads, mice, snakes, woods, plastic, glass and stones can be removed without any adjustment to the sorter.

Vegetable mixes

Typical defects removed include packaging materials such as wood, cardboard and plastic as well as missed EVM so processors can be confident of top quality produce prior to packing.







Carrots











Cranberries



Mango chunks



Raspberries

Defects such as white, pink, green, moldy or soft raspberries as well as FM including insects, snails stems, attached stems, glass and plastic are removed with high efficiency without compromising the valuable, fragile produce.









Flexible optical sorting solutionsAt all stages of the process line





After IQF (Individually Quick Frozen)

In the frozen state, SORTEX[®] sorters are equipped with technologies to remove the more subtle color defects as well as any remaining shape deformities. They are also perfectly suited for bulk to bulk cleaning processes for the removal of missed EVM, field foreign material and packaging FM.

2

In the packing line

At the final stage of the process, there is a risk of packaging FM such as wood, plastic and cardboard entering the product stream. SORTEX[®] sorters in the packing line are optimized to detect a wide range of FM in just one simple set-up to ensure top quality produce that is safe to eat is achieved every time.



3

Bulk to bulk

Good suppliers are not enough to provide repackers with brand protection assurance. A further sorting stage is essential. During the transportation and repackaging process there is potential for FM such as plastic, conveyor belt pieces, or packaging material to enter the product stream. Cardboard may infiltrate the product when pieces tear off from totes, while wood pieces can occur from octabins.



Integrated digital solutions

Our optical sorters can be easily connected to your processing line's plant control systems. Useful insights will be transmitted from our SORTEX devices to your Plant Manager, Procurement/Sales Managers etc., increasing your OEE significantly.



SORTEX[®] FA Range The most innovative solution for IQF sorting



SORTEX® FA

The SORTEX FA range of optical sorters for frozen fruit and vegetable processors pushes the boundaries in hygienic design with the most open and accessible frame the market has ever seen. Available in three frame sizes (600,1200,1800 mm), the SORTEX FA is perfect for small to large processors seeking maximum food safety and quality.

Combine this with breakthrough sorting technologies including the SORTEX[®] PolarVision[™] detection system and new LED-Xenon lighting for unprecedented defect and FM detection.

The SORTEX FA is custom built to be placed after IQF or in the packing line to remove gross and subtle color defects, EVM and hazardous FM with market-leading results.

- Open frame with hygienic grade fixings
- Adjustable UHMW-PE chute
- InGaAs^{HD} option
- Open receptacle
- Custom-built color cameras
- SORTEX[®] PolarVision[™] detection system
- PROfile[™] (shape) technology
- LED-Xenon lighting
- 17-inch touch screen, user interface
- ProSortX[™] operating software
- Available in three frame sizes 600, 1200, 1800 mm

Innovative technologies Simplifying the most complex sort



SORTEX[®] PolarVision[™] technology

The specialist SORTEX PolarVision[™] detection system brings together pioneering technologies for unprecedented, market leading foreign material removal. Innovative **PolarCam[™]** technology targets the spectral and spatial differences between the commodity and FM whilst new highdefinition **InGaAs^{HD}** cameras detect FM in the near invisible infrared spectrum.



Custom-built visible cameras

Bühler's high resolution color cameras which are designed and custom-built in house remove gross and subtle color defects from a variety of fruit and vegetable applications to increase product quality and uniformity.



with InGaAs

InGaAs^{HD} technology

The next generation infrared detection technology from Bühler now comes in high definition with double the resolution to detect FM down to half the size. With twice as many pixels, InGaAs^{HD} detects the smallest pieces of hazardous materials that cannot be seen in the visible spectrum for an added layer of assurance.



PROfile[™] technology

PROfile[™] technology can intelligently detect and virtually separate touching objects, allowing for higher capacity shape sorting. It can also use a combination of multiple shape parameters to remove stems and under or oversized products at the same time.



High Power Sortex Ejector⁺

128, 256, 384 high power Ejector⁺ high flow ejectors efficiently remove defects and 600 mm or 1200 mm viewing width ensures high product flow and low yield loss. Ejector⁺ technology, Bühler's most powerful ejectors, is now available on SORTEX FA optical sorters for precise removal of heavier objects such as stones, glass and product lumps.



SORTEX ProSortX[™] operating software

The latest update of Bühler's proprietary operating software comes with a fresh new interface that's modern, clean and intuitive to use. Featuring innovative FinerTipControl[™] with TrueColour frame captures for the most intuitive operation and navigation between screens and navigation between screens.

Model Variants and Specifications

Product features and options

Contact your local representative for a full list of product features and specifications.

	Standard Optional
Features and specifications	SORTEX® FA
SORTEX PolarVision™	•
Flexible color cameras	• • • • • • • • • • • • • • • • • • •
InGaAs ^{hd}	•
PROfile™ technology	•
LED-Xenon lighting	
Fluorescent lighting	
Halogen lighting	
Filter changer	• • • • • • • • • • • • • • • • • • •
Feed vibrator	•
Remote access	• • • • • • • • • • • • • • • • • • •
SORTEX ProSortX™	• • • • • • • • • • • • • • • • • • •
CE Certification	
Bühler Insights	•

Dimensions, air and power requirements

SORTEX [®] FA Range	Width	Length mm	Height mm	Weight* kg	Typical air requirements (I/s)** 102-116 psi (7-8 bar)	Typical power consumption (kW)*** (200-240 V; 50/60 Hz single phase)
SORTEX FA1	1610	3010	2112	850	Standard 32 Ejector+ 45	2.4
SORTEX FA2	2210	3004	2112	1250	Standard 65 Ejector⁺ 90	4.75
SORTEX FA3	3003	3174	2281	1980	Standard 65 Ejector⁺ 90	6.5
SORTEX FA1 short chute	1610	3010	2112	850	Standard 32 Ejector ⁺ 45	2.4

* Unpacked weight. Figures will vary based on machine product options.

** Figures will vary based on contamination levels.

*** Figures will vary based on machine product options.





Depth



By your side for success

With service stations and personnel in over 140 countries, we are there for you, wherever your facility is located. Our Total Care solution is designed to address your every need. From machine maintenance and parts supply to weekly reports and expert consultations, you can be confident that your sorting machines are kept running efficiently, at optimal capacity, and delivering maximum return on investment.

With a global network, and over 25,000 color sorters installed worldwide, we understand the competitive environment of food processing and the importance of minimizing downtime and safeguarding profit margins. That's why our solutions are designed to operate in production plants of all sizes, helping our customers achieve higher productivity and profitability.



We take partnership seriously. Our local and global teams provide expert advice, consultation, and machine maintenance, helping you stay ahead of future challenges. We also perform testing and trials to ensure your solutions are tailored to your specific needs.

Our advanced digital solutions bring visibility and peace of mind to your process. With Bühler Insights, you can access the data that creates change. Respond quickly to downtime with alerts, analyze the quality of your supplier's material, and receive real-time data to maintain your highest product quality. If you are looking for a solution for human handling and error, our sorters are easy to use (requiring less training) and automated, to ensure reliable performance. Like a perfectly fitting puzzle piece, our solutions integrate seamlessly into your process line, enabling the consistent quality your business needs to thrive.



Bühler Group



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