



Bühler SORTEX
**Nut Sorting
Solutions**

Innovations for a **better world.**

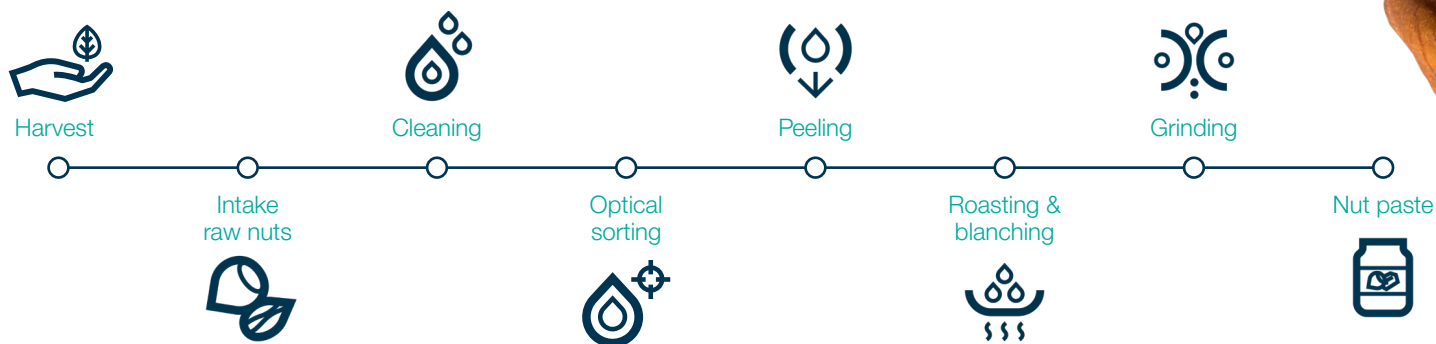
BÜHLER

Bühler in Nuts

Bringing quality, efficiency and sustainability at every step of the nut process

Bühler is a leading global supplier of machinery and services to the nut industry, for all parts of the process, from optical sorters to roasters, driers, weighers & dosers and snack bar production. Our ability to provide solutions all along the value-chain combined with in-depth industry experience gained over many decades allows us to offer the best solution to each of our customers.

Nut processors can be confident of world-class performance when placing Bühler's optical sorters in their processing line.



Partner with Bühler SORTEX

The complete solution for nut processors

Performance

SORTEX optical sorters set the industry performance benchmark. No matter what criteria is most important to you, you no longer have to compromise. Our machines offer the best accept quality with the highest reject concentration in industry, all at leading throughput rates. This is why Bühler is the leader in nut sorting, trusted by all major processors and importers to get the safest, cleanest nuts to their customers.

Customer proximity

Bühler is in the region, for the region. We have physical presences in every nut producing region thanks to our dense network of Bühler service stations and committed channel partners. We understand local requirements and support you with a quick response time in case of an emergency.

Digitalization

Our sorting machines are Industry 4.0 ready and allow you to gather valuable data for better and faster decisions. SORTEX Monitoring System dashboards can be accessed remotely to provide full transparency of your operations and insights in real-time.

Ease of Use

Unmatched ease of use without requiring operators to have in-depth technical knowledge. Sorting performance is easily maintained and adjusted with individual defect removal control to meet your needs in the best possible way.

Quality

Our SORTEX machines are built to the highest quality standards in London and are designed to operate in the most challenging environments. We support our machines and continue to supply spare parts for at least 10 years for all our machines. In addition, we continuously develop upgrades for existing machines to further enhance performance and increase the longevity of our sorters.

Sorting Nut varieties



“We bought our first machine from Bühler in 2011 and it is still running today. Longevity is the backbone of our relationship with Bühler”

– Patrick Mason,
Operations Manager –
Supreme Almonds

1. Almonds

The SORTEX range of optical sorters is ideal for almond processors requiring the highest in standards to produce safe, clean and consistent quality almond products, including in-shell, natural or blanched nuts.

Recommended machines: SORTEX N BioVision, SORTEX F BioVision, SORTEX H SpectraVision

In-shell almonds



Natural almonds



Typical defects

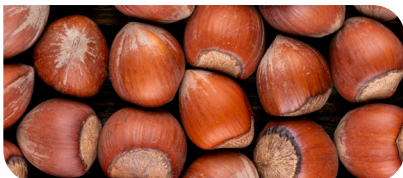
- Foreign material such as shell, sticks, stones, plastic and glass
- Black spot, frass, gummy, inedibles
- Chip & scratch, broken, doubles
- Insect damage & pinholes

2. Hazelnuts

Bühler's optical sorting technology can sort different grades and types of hazelnuts including natural, blanched and roasted. The SORTEX range can efficiently remove color defects such as dark, discolored, shriveled and rotten hazelnuts, as well as foreign materials such as shell, wood and sticks delivering a safe and fault-free end product.

Recommended machine: SORTEX H SpectraVision

In-shell hazelnut



Natural hazelnut



Typical defects

- Foreign material such as shell, sticks, stones, plastic and glass
- Rotten, cimmiciatto
- Insect damage & pinholes

Sorting Nut varieties

3. Peanuts

Bühler's optical sorting technology can sort different varieties of peanuts including in-shell (Spanish or Valencia) with red or pink skin, blanched or roasted. The SORTEX range can efficiently remove defects with certain discolorations, in-shell, split, oversized undersized or misshaped nuts as well as foreign materials, including sticks and bones in a number of locations in the process, including recovery from gravity tables, post-shelling and as a final quality check.

Recommended machine: SORTEX N, SORTEX FB BioVision, SORTEX A LumoVision, SORTEX H SpectraVision, Bühler DA MultiVision

In-shell peanuts



Redskin & blanched peanuts



Typical defects

- Foreign material such as shell, sticks, stones, plastic and glass
- Cross contamination from soya and corn (maize)
- Mould, discoloured & inedibles
- Aflatoxin reduction

4. Cashews

Bühler's optical sorting technology sorts cashew nuts from a variety of different grades and stages; whole, split, chopped/diced, raw or roasted. The SORTEX range can efficiently remove typical defects such as cashews with subtle discoloration or dark spots, sticks, stones and shells as well as challenging defects such as rotten pieces in diced/chopped cashews.

Recommended machines: SORTEX H SpectraVision, SORTEX J SpectraVision, Bühler DA MultiVision

Cashew with skin



Natural cashew



Typical defects

- Discolored & dark, black spots, testa, under-developed, mould, insect damage, Foreign material

Sorting Nut varieties

5. Walnuts

Bühler's optical sorting technology offers processors the flexibility of sorting different varieties and grades of walnuts; in-shell and shelled, including sizes ranging from halves to double-diced and colors ranging from extra light to amber. The SORTEX range can remove discolored, shriveled, moldy or insect-damaged walnuts, butterballs as well as challenging foreign materials such as septa/membrane and shell.

Recommended machine: SORTEX F BioVision, SORTEX H SpectraVision

In-shell walnut



Natural walnut



Typical defects

- Foreign material such as shell, sticks, stones, plastic and glass
- Aflatoxin reduction
- Light, darks & discoloured kernels

6. Macadamia

Bühler's optical sorting technology offers processors the flexibility of sorting different varieties and grades of macadamia nuts; in-shell, whole, halves, and pieces. The SORTEX range can remove typical defects found in macadamia nuts including shell pieces, in-shell nuts, discolored, rotten, insect-damaged nuts caused by stink bugs.

Recommended machines: SORTEX H SpectraVision, SORTEX N BioVision, SORTEX F BioVision

In-shell macademia



Natural macademia



Typical defects

- Under and over-roasted beans
- Foreign material

Sorting Applications

7. Pecans

Bühler's optical sorting technology offers processors the flexibility of sorting different varieties and grades of pecans; in-shell and shelled, including sizes ranging from halves to pieces and colors ranging from light to dark amber. The SORTEX range can remove discolored, insect-damaged, moldy or immature kernels as well as foreign materials, including sticks, septa/membrane and shells.

Recommended machine: SORTEX F BioVision, SORTEX H SpectraVision

In-shell pecan



Natural pecan



Typical defects

- Shells, Mould, Color defects such as Light, dark and amber

8. Pistachio

Bühler's optical sorting technology can sort in-shell or shelled pistachios in raw or roasted states. The SORTEX range can efficiently remove typical defects such as light or dark stained shell, insect-damaged, moldy decayed, shriveled, broken or oversized/undersized in-shell pistachios or kernels as well as foreign materials, including shell pieces, sticks, rocks and loose kernels from in-shell nuts.

Recommended machines: SORTEX H SpectraVision, SORTEX N BioVision, SORTEX F BioVision

In-shell pistachio



Natural pistachio



Typical defects

- Foreign material such as shell, sticks, stones, plastic and glass
- Shell, open/closed, amber

Optical sorting product solutions For the nut industry

Flexible solutions

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

 Standard  Optional

SORTEX H SpectraVision



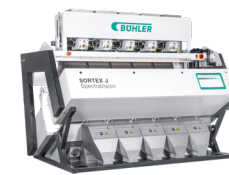
SORTEX A LumoVision



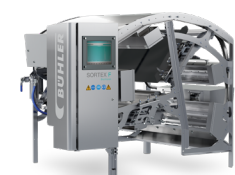
SORTEX N


















SORTEX J SpectraVision



SORTEX F BioVision



Typical Application	High-performance color & FM sorting on blanched and natural kernels	Aflatoxin & specialist FM sorting	Gross FM removal / pre-cleaning for inshell & post-hulling	Efficient color sorting on blanched and natural kernels	High-performance color and FM sorting on natural kernels with excellent shell detection
Available Sizes	1 to 7 ¹	3 to 5 ¹	1 to 3 ²	1 to 7 ¹	1 to 2 ²
Camera Technology	SpectraVision	LumoVision	BioVision, OptiVision, ColorCam ⁺	SpectraVision	BioVision, OptiVision, ColorCam ⁺
InGaAs Cameras	Enhanced	-	InGaAs ^{HD}	Standard	InGaAs ^{HD}
Lighting Technology	High-Intensity Xenon & LED	Narrow Band LED	Broad Spectrum Halogen	LED	Broad Spectrum Halogen
Operating System	MerlinAi	ProSortX 4.0	ProSortX 4.0	MerlinAi	ProSortX 4.0
Certification	NRTL, CE, (Optional: HazLoc & ATEX)	NRTL, CE, (Optional: HazLoc & ATEX)	NRTL, CE	NRTL, CE	NRTL, CE
Viewing Sides	Front & rear	Front & rear	Front	Front & rear	Front & rear
SORTEX Total Care					
SORTEX Monitoring System (1st year)					
SORTEX Data Integration & Control					

1) 300mm wide modules
2) 600mm wide modules



Transparent insights With Bühler's digital solutions

SORTEX Monitoring System

Spot it. State it. Sorted.

SORTEX Monitoring System provides an overview of the key performance indicators of your Bühler SORTEX machines and delivers actionable insights to increase your productivity, yield, and efficiency. Transform your plant digitally in line with Industry 4.0 standards and make informed decisions from anywhere.



Increase productivity & reduce waste: Monitor the sorter's performance closely to optimize product quality and yield.



Act fast & save money: Spend less time supervising and get notified by real-time alarms.



No technical skills required: Take advantage of historical data to benchmark across batches, shifts, suppliers, and multiple production sites.

SORTEX Data Integration and Control

Control your sorters, shape your business.

SORTEX integration services enable customers to fully integrate the SORTEX with their local automation system or preferred data analytics platform. Collect data locally and control sorter settings directly from the automation system. Harness the power of SORTEX data; aggregate SORTEX data with data from other equipment to gain visibility of your entire process.

A lifetime partnership

There for you at every step of your journey

We are here to help you 24/7, providing customer service that you can depend on. From maintenance and product testing, to training and digital services, our aim is to boost your production performance and ensure an unmatched quality of final product for your customers.

First contact. Happy to help!

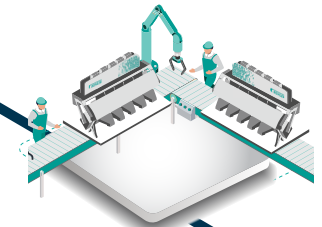
You discover Bühler via our experienced Sales Managers, through marketing collateral, at an event, or from our website. However you hear about Bühler, together we discuss your problem areas and sorting needs.



Defining your solution

Send us your technical requirements and product photos. Depending on the application, choose from our tried and tested solutions or create a bespoke solution, either virtually or within one of our 14 application labs around the world.

Based on the test results, we collaborate with you to create a bespoke SORTEX solution that you are confident in, that will suit your unique processing requirements and increase your business performance.



Manufacturing your sorter

With 32 manufacturing sites around the world, we have a very high in-house production capacity, including the development of intricate cameras and sensors. Our optical sorters are not built on stock, but rather based on your specific needs.

Reduce your footprint

As a company, we want to balance the needs of the economy, humanity, and nature, and we are committed to developing a pathway to achieve a 60% reduction of greenhouse gas emissions in our own operations by 2030. Optical sorters play a critical role in reducing waste as we look to support our customers to measure and reduce their own emissions. We are committed to having solutions ready to multiply by 2025 that reduce energy, waste, and water by 50% in the value chains of our customers. To learn more about the impact of Optical Sorting, or to quantify the environmental footprint of your own sites and products, **contact your local Bühler Sales office.**



Here when you need us

As a member of the Bühler family we offer you a range of aftercare solutions to enjoy, including: tests, repairs and remote support from our Service Engineers based at 98 Bühler service stations around the world.

myBühler portal – our trusted customer portal, providing you with all the information you'll need to run your SORTEX machine

TotalCare – our service package for repairs and performance optimization.

Retrofit services – allowing you to update or upgrade your machine, increasing its lifecycle.



Performance optimization

Improve productivity with Bühler Insights, our digital service platform. Monitor and control your sorting performance remotely with real-time data and take actionable steps to increase performance.

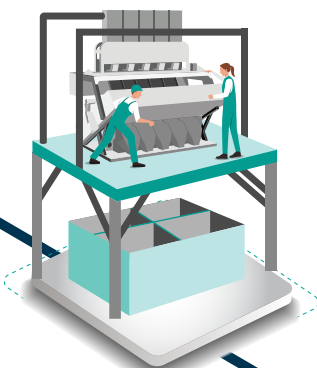
Supported operation

Our sorters are intuitively designed for easy operation and flexibility with quick product changeovers. We offer operator training courses conducted by our Service Engineers on-site at your plant.



Installing & connecting

Using integration drawings, the machines are fitted and tested by our experienced and highly trained local language speaking Service Engineers. They connect the machine to your plant's automation system using PLC or other plant networks.



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