



Grain
Sorting Solutions.

Grain Sorting from Bühler. **Equipment and Solutions.**

- 1 Understanding Grains
- 2 Grain Sorting Applications
- 3 SORTEX® A Optical Sorting Range
- 4 SORTEX® B Optical Sorting Range
- 5 SORTEX® Innovative Technologies
- 6 Model Variants and Specifications
- 7 SORTEX® Customer Care



Leading in optimised grain sorting solutions. **An integral partner of the grain industry.**

Built into all Bühler SORTEX® optical sorters is the ethos of superior machine performance, revolutionary technologies and balanced, stable sorting. This is the Bühler competitive edge and the reason why it is the leading brand of choice for so many grain processors.

Featuring the latest in detection, lighting and proprietary technologies to help grain processors meet requirements on different grain variety, applications, capacity and yield.

Why choose SORTEX®?

- Formidable defence against foreign material and mycotoxins.
- Flexible range of sorting solutions to meet requirements on different types of application, capacity and yield.
- Trusted proprietary technologies, with over 70 years of sorting history - consistent and reliable performance.
- Presence in over 140 countries - minimum downtime. Access to training courses, spares and local expertise.

1 Understanding Grains. Varieties and complexities.

At Bühler, we understand the complexities of different grain varieties; whole, grits, hulled, unhulled and the contaminants present; foreign material, seeds, subtle discolouration and mycotoxins such as aflatoxins and DON. Below is a small selection of different grain variety, its common and challenging defects and application possibilities with SORTEX[®] optical sorters.



Soft/Hard Wheat

Suitable for a range of wheat varieties including grains at different stages of the processing line to remove subtle defects, discolouration and mycotoxins such as DON.



Durum Wheat

Removes spot defects, discolouration and delivers exceptional consistency of appearance and quality, whether whole grain or broken grains.



Corn/Maize

Suitable for all corn/maize, from field corn to grits. Removes both common and challenging defects including black tips, straw, cob, foreign materials and reduce mycotoxins such as aflatoxins and DON.



Rye

Suitable for Rye applications that requires removal of diseased rye, ergot, discolouration and various foreign materials.



Oats

Suitable for unhulled, hulled, and kilned oats/groats. Reduces cross-contamination from other grain varieties, discolouration, subtle spots and various foreign material.



Barley

Highly effective in identifying and removing moulds and mycotoxins including vomitoxin (DON). Also used to minimise cross-contamination, broken, shrunken, shrivelled or naked barley grains.



Millet/Sorghum

Accurately detects and ejects damaged, discoloured, diseased grains, foreign seeds and field materials from a wide range of millet including unhulled or groats, to deliver consistent product quality, whilst maintaining high yields.



Buckwheat

Suitable for both hulled and unhulled buckwheat. Effectively detects and removes discoloured grains, foreign seeds and challenging foreign materials such as sticks and stones of similar colour to buckwheat.

2 Grain Sorting Applications. Your most challenging sort, conquered.

Accept Reject



Wheat

An application sample test on wheat, successfully removed vomitoxin (DON), ergot, discolouration, broken and insect damaged grains.

Foreign grains such as barley, oats and soya can also be successfully removed, to minimise cross-contamination.

Durum

The application sample successfully removed small and subtle spots, tip defects and fusarium.

Note: Low protein grains can also be removed for protein durum wheat sorting applications.

Barley

The SORTEX[®] optical sorter used for the above sample test has been optimised to remove naked, cracked kernels and foreign grains such as wheat, rye and oats to deliver the best possible barley quality and prevent cross-contamination. Used for further processing, into the making of beer, mycotoxin infected grains were also successfully removed to prevent gushing.



Rye

The application above had very specific requirements; attain the highest possible food safety standards and consistent rye quality. A SORTEX[®] optical sorter used during this sample test showed successful removal of ergot, damaged grains and other grain varieties such as barley, wheat and wild oats.



3 Sophisticated sorters for challenging applications. **SORTEX® A Range.**

Available in three technology variants; the SORTEX A is available as a standard, MultiVision™ and ColorVision™ InGaAs to help processors meet specific application requirements. Designed specifically for challenging applications and processors who require accuracy and precision performance to deliver the best grain quality.



One module



Two/Three module



Four/Five module

Most advanced sorting solution for challenging grain application - maximising overall profitability.

Features the latest in advanced detection technologies, including high resolution cameras, LED lighting, high speed ejectors and detection software for accurate removal of subtle colour variations and foreign materials to deliver uniform appearance on colour, size and shape.

The SORTEX A optical sorter can also be optimised for mycotoxin reduction applications to deliver the highest food safety standards in grains.

- Consistent high sorting performance
- Balanced, stable performance
- Optimising productivity, lowering cost of ownership



4 Optimised for mainstream sorting. **SORTEX® B.**

Ideal for grain processors looking for a typical, mainstream sorting solution with proven technologies and trusted performance. Available in three frame sizes in up to five modules and two technology variants including the standard SORTEX B and the DualVision™ technology.



Mainstream sorting solution with Bühler proprietary technologies for trusted performance.

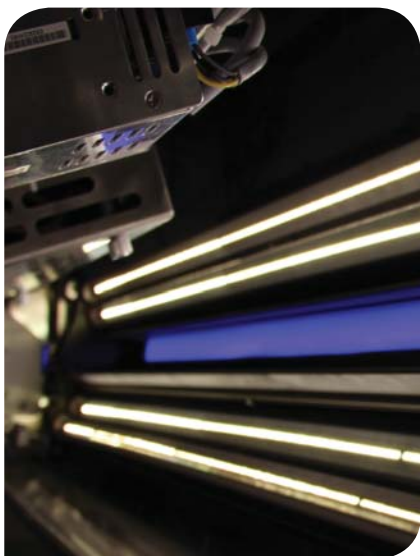
Features a combination of new and improved camera, lighting, ejection and detection systems to deliver a reliable sorting performance for mainstream grain sorting applications. Removes colour defects and foreign materials for uniform grain quality.

- Enhance day-to-day sorting performance and high capacity processing
- Consistent and stable performance
- Simplified ease-of-use



5 SORTEX® Innovative Technologies. Technology leadership in optical sorting.

From Competence Centres around the world and optical sorting headquarter in London, our researchers, engineers and product developers work in partnership with our customers to develop proprietary technologies that are at the forefront of the optical sorting industry - since 1947.



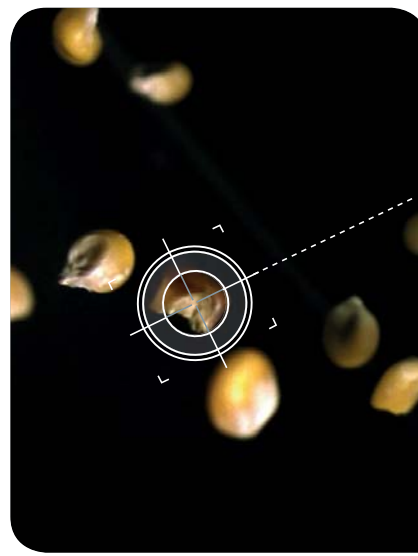
Inspection system with Broadband LED Lighting

A combination of high-resolution customised cameras, designed and built in-house and Broadband LED Lighting, delivers the colour recognition needed to detect defects and foreign materials, within the entire visible spectrum.



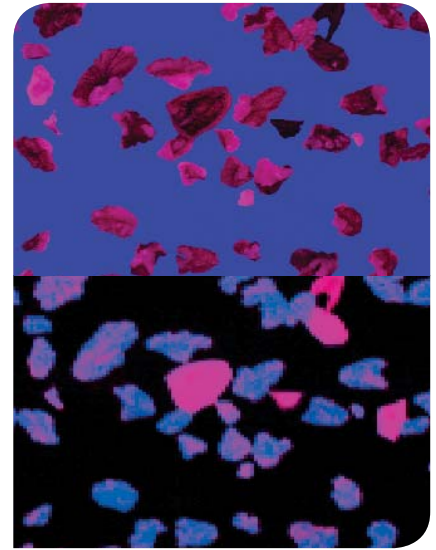
SORTEX® ProSortX™ operating system

Fresh new interface that is modern, intuitive to use and responsive - simplified operating system with flexibility and better controls, no need for complex operator training.



SORTEX® ejector technology with SmartEject™

Ejectors are precision built for high speed ejection and consistent performance. Its easy serviceability and long lifespan lowers cost of ownership of SORTEX optical sorters. SmartEject sorting algorithms and software fires precisely at the whole defect, efficiently removing unwanted product while minimising false rejects.



PROfile™* (detection) technology

A combination of three dynamic technologies to perform the most complex sorting tasks.

PROshape™

Remove defects that are the same colour as good products; sticks, stalks, stones etc.

PROsize™

Separates under, over sized and broken.

PROcolor™

Analyses multiple colour variation as well as individual blemishes offering flexibility to set own product quality.

Balanced and Stable sorting performance

Maximise yield, capacity and reduce energy wastage during a secondary or tertiary sort. By optimising modules/chutes for a balanced and stable sorting performance, this helps to avoid unnecessary re-circulation of seeds.

Achieved through a combination of proprietary software including Auto-Calibration and Product Tracking - ensures consistent performance throughout whilst removing the need for laborious manual set-up.

InGaAs Technology

Originally designed for military satellite application, InGaAs technology can detect defects which cannot be seen in the visible spectrum. By utilising infrared technology, the system reads light reflection as well as colour registration to offer precise detection of unwanted materials, for example foreign materials which are of the same colour as your grain product.

* SORTEX A DualVision™

6 Model Variants and Specifications.

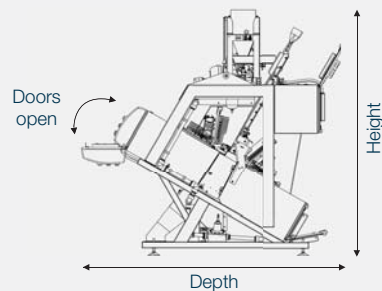
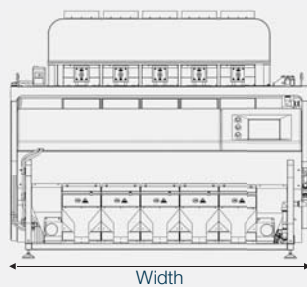
Product options

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

Standard Optional

Features	SORTEX A MultiVision™	SORTEX A ColorVision™ InGaAs	SORTEX A DualVision™	SORTEX A	SORTEX B DualVision™	SORTEX B
Flexible Cameras	Standard	Standard				
High Sensitivity Cameras			Optional	Optional		
Standard Cameras			Standard	Standard	Standard	Standard
Broadband LED	Standard	Standard				
High Lumen LED			Standard	Standard	Standard	Standard
Standard InGaAs	Optional	Optional	Optional	Optional	Optional	Optional
Enhanced InGaAs	Optional	Optional				
Climate Control	Optional	Optional	Optional	Optional		
PROfile™ Technology	Standard	Standard				
SORTEX ProSortX™	Standard	Standard	Standard	Standard	Standard	Standard
Remote Access	Optional	Optional	Optional	Optional	Optional	Optional
Product Tracking	Standard	Standard	Standard	Standard	Standard	Standard
Auto-Calibration	Standard	Standard	Standard	Standard	Standard	Standard
CE Certification	Standard	Standard	Standard	Standard	Standard	Standard

Dimensions, air and power requirements



Machine	Width mm	Depth (Doors Open) mm	Depth (Doors Shut) mm	Height mm	Weight* kg	Typical air requirements (l/s)* 72-102 psi (5-7 bar)	Typical Power consumption (kW)** (200-240 V; 50/60 Hz single phase)
A1 B1	1000	2333	1708	2088	500	8	1.5
A2 B2	1788	2333	1708	2088	927	16	2.3
A3 B3	1788	2333	1708	2088	970	24	3.1
A4 B4	2387	2333	1708	2088	1107	32	3.4
A5 B5	2387	2333	1708	2088	1150	40	4.5

* 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.

7 SORTEX[®] Customer Care. Secure tomorrow's profits today.

Bühler customers have access to a network of over 140 Sales and Service offices worldwide, offering customisable service packages, stock on spares and upgrade kits, to ensure your optical sorters perform at maximum possible efficiency. Training courses and Competence Centres offering application and product trials are also available at regional sites and from local offices around the world.

TotalCare™

Create a customised service package, composed of individual service features from the list below. From maintenance visits, downtime cover to refurbishments and preventative - basic to fully comprehensive. Designed to ensure your optical sorters perform at its maximum performance.

TotalCare Protect

Minimise Downtime

Based on an agreed number of annual visits, Bühler engineers will replace key wear parts, provide consultation and advise on future maintenance requirements.

TotalCare Perform

Performance Optimisation

Aspiring to keep downtime to under 24 hours, sorters will be safeguarded against any failed components. Bühler engineers will ensure first-rate performance once the repair is carried out.

TotalCare PerformPLUS

Ejector Refurbishment

Making certain that sorters are running at peak performance, ejectors are replaced when the stipulated life-cycle is reached. Performance is maintained for the future.

TotalCare Anyware

Supervised Functionality

Provides a working record of operational information as well as reports that enable machine health to be monitored and preventative maintenance scheduled.

TotalCare AnywarePRO

Remote Access and Assistance

Sorter performance can be viewed remotely by customers and Bühler engineers. Faults can be diagnosed and performance optimised in any location using a laptop, tablet or smart phone.

All contract options are available for variable durations.

SORTEX[®] Spare Parts Promise

Customer satisfaction is our priority. This is why we strive to deliver both spare and wear parts within 48 hours - maximising your profitability.

SORTEX[®] Upgrade Kits

Bühler have designed various upgrade kits, for existing customers who are seeking to upgrade sorters with an additional module, new technology features or processing software.

SORTEX[®] Spare Parts

Various kits to suit different optical sorters are available for customers who wish to have spare parts available on site.

Optical Sorting Training Courses

Available from various regional Bühler locations. From operator to management, basic to advance, speak to your local representative for course selection and availability.



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