Agricultural Seeds
Optical Sorting.
Bühler is a leading global supplier of optical sorting solutions to the food and non-food processing industries and has been at the forefront of optical sorting technology for over 65 years.

Bühler’s commitment to and substantial investment in R&D ensures that its advanced optical sorting technology produces excellent results in removing even the most challenging of seed defects and foreign material.

Flexible to handle small to large capacities, the innovative SORTEX range is able to sort many varieties of agricultural seeds - field crops, vegetable and herbage seeds and many others. Our product offering for seed sorting includes the SORTEX A and SORTEX B that are available from one to five modules and offer customisable options tailored to customer needs.

**Why Bühler?**
- Maximises germination and enhances the appearance in seed lots
- Improves product value and yield
- Delivers consistent performance and stability
- Increases productivity and lower operational costs

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**Sorting solutions**

Bühler offers complete flexibility to seed processors; depending on individual requirements, optical sorting can contribute to product quality before or after mechanical grading.

**Untreated**

Before or instead of mechanical grading, e.g. indent cylinder or gravity table
- On certain applications, using optical sorting before or instead of mechanical grading can reduce the loss in yield from mechanical processing

**Untreated**

After mechanical grading
- Optical sorting can remove defects which have been missed, not targeted or caused by the mechanical process, achieving a homogenous appearance and high germination level

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**Field crop seeds**

![Corn (maize)](image1.png) ![Soya](image2.png) ![Wheat](image3.png) ![Rapeseed](image4.png) ![Paddy](image5.png) ![Sunflower](image6.png)
Special applications
Bühler can cater to more specialised requirements, such as the sorting of treated seeds after the coating stage - subject to the treatment type and seed condition. Please contact your local representative to discuss specific requirements.

### Treated
**After coating**
- Removes partially coated seeds
- Reduces the level of cross contamination (by colour separation)
- Removes refuge seeds from other chemically treated seeds

### Batch processing
**Small capacities**
- Short time for mode change and clean down between seed types
- Reduces hand sorting on small batches
- The single module sorter can handle capacities as low as 100kg per hour for analysis

### Vegetable seeds
- Carrot
- Onion
- Lettuce
- Sugar beet

### Herbage seeds
- Spinach
- Grass
Bühler provides optical sorting solutions for seed processors who demand the highest standards of seed quality with a focus on maximising the seed yield, both in terms of cleaning and germination in the fields.

Maximising germination and enhancing appearance in seed lots
- SORTEX optical sorters help to improve the appearance in seed lots by ensuring the seed is homogeneous in size, shape and colour
- High-resolution InGaAs technology, unique PROfile™ technology and visible cameras ensure the selection of the highest quality seed and reduce cross contamination of seeds

Improving product value and yield
- The high precision ejection system minimises false rejects of good seed, delivering a very highly-concentrated reject stream
- Careful handling of the seed also improves the overall levels of germination

Delivering consistent performance and stability
- SORTEX optical sorters deliver a stable and reliable operation. Automatic wiping, optimised mechanical design and optional dust extraction system ensure the clearest viewing of product
- On certain models within the SORTEX range a Climate Control System is provided that enables the sorter to operate successfully in some of the most challenging conditions. With a tolerance to temperatures ranging between 0°C and 50°C (32°F and 122°F) it can be relied upon to deliver consistent performance even in the harshest environments

Increased productivity and lower operational costs
- The efficiency of a SORTEX machine minimises the factory floor footprint in comparison with larger mechanical cleaners
- The SORTEX range can easily be switched between product modes, either pre-set or user defined, meaning minimum down time and highly specified sorting performance across a range of products
- With its modular design, the SORTEX range can handle multiple capacities. While a single module can be used to run small batch samples for lab analysis, as low as 10kg batches on vegetable seeds, a multi-module machine can handle an industrial throughput of up to 20 tonnes per hour on corn seeds
- Assisted by the SORTEX Anyware remote connection, Bühler engineers can respond quickly in support of a machine, maximising up-time and further enhancing productivity
Damaged, diseased and discoloured seeds can all reduce germination, whereas sticks, stones and cross contamination will affect product value. SORTEX technology significantly reduces these issues to maximise yield and profitability of good product.

### Sunflower
Black, striped or white sunflower seeds can all be processed with high efficiency. The use of Bühler proprietary Enhanced InGaAs and PROfile™ technology ensures the removal of the most difficult defect types such as sclerotia.

### Corn (maize)
Field corn, popcorn and sweet corn can all be processed with highly efficient defect removal and elimination of cross contamination from different corn varieties and other seeds.

### Soya
SORTEX optical sorters can process high levels of contamination in soya seeds providing excellent yield and reduced waste. PROfile™ (shape) technology can separate oblong from round seeds.

### Carrot seeds
High-resolution cameras allow the detection and removal of even the smallest size seeds. The open design of SORTEX optical sorters allows easy clean down and removes risk of cross contamination in batch processing.
SORTEX A.
Sophisticated optical sorters for seed sorting.

Available in four variants including the MultiVision™ and ColorVision™ inspection systems, the SORTEX A demonstrates a commitment to providing seed processors with dedicated customised options to handle unique and most challenging sorting requirements.

Showcasing Bühler innovation with new advanced inspection and lighting systems, this state-of-the-art technology provides the ultimate seed sorting solution, whatever the difficulty of the application.
Technical excellence and flexibility.

Process engineered with flexibility to handle small to large capacities, the SORTEX A range is available in one to five module versions, in three different frame sizes. Different features can be offered for different modules.

Empowering sorting performance
The SORTEX A range inspection technologies provide the most profitable sorting performance in removing subtle colour variations and foreign material, reducing toxins including mycotoxins, and colour grading/grouping.

The SmartEject™ system and simultaneous resorting capabilities ensure accurate product rejection and the highest reject concentration, thereby minimising loss of good product.

Ensuring consistent operation
Auto-calibration and product tracking features provide consistent product quality through their unique to Bühler ability to effortlessly handle both changes in input and product colour variation.

Optimising productivity, lowering cost of ownership
The SORTEX A range optimises productivity with durable broadband LED lighting and long-life serviceable ejectors. The auto-filter changer and different product modes handle multiple products, while the quick chute release system allows anyone to replace chutes without the need to re-align the optics.
SORTEX B.
Optimising conventional sorting.

Available in three variants including the DualVision™ and ColorVision™ inspections systems, the SORTEX B range is available in three frame sizes to suit all capacity requirements for mainstream sorting.

Integrating superior feed and vision systems with processing capabilities, the SORTEX B range is the dependable choice for seed processors who seek the assurance, functionality and trusted performance of the SORTEX brand.
Consistent performance in typical applications.

Process engineered with flexibility to handle small to large capacities, the SORTEX B range is available in one to five module versions, in three different frame sizes. Different features can be offered for different modules.

Enhanced sorting performance
Standard InGaAs technology provides reliable detection of foreign material that is the same colour as the good product, while flexible broadband LED and broad spectrum IR lighting can see defects within the entire visible (Red, Green and Blue wavelengths) and infrared spectrum.

Trusted Bühler quality and reliability
The SORTEX B range has been designed to Bühler’s high build quality standards. Our manufacturing expertise and stringent quality control ensure dependable, reliable performance, while cutting edge product design ensures durable machine quality with sealed control and optical cabinets that provide easy access and stability.

Greater configuration flexibility and capacity
Modular systems provide flexibility in the sorting configuration to produce the required product grades. In conjunction with up to five high capacity modules customised to individual sorting requirements, the SORTEX B can match varied capacity needs and manage unexpected contamination levels.
Innovative technologies and customer care.

**Inspection system with broadband LED lighting**

Bühler’s high-resolution cameras are designed and built in-house to deliver the colour registration needed to detect defects and foreign material. When combined with broadband LED lighting, Bühler optical sorters can target defects within the entire visible spectrum.

**InGaAs technology - shell and foreign material removal**

Enhanced InGaAs technology can detect defects which cannot be seen in the visible spectrum providing much better separation of good product from foreign material of the same colour.

**High speed ejectors**

The Bühler ejectors are custom-designed and precision built for high speed, easy serviceability and long life. Through constant development, the ejector’s life span has been increased significantly. This efficiency of operation and maintenance enables the low cost of ownership of SORTEX sorters.

**PROfile™ technology**

PROfile™ (shape) technology distinguishes objects such as sticks, stones and other foreign material from a wide range of applications using shape characteristics.

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**SORTEX Customer Care.**

SORTEX Total Care offers customers the opportunity to create their own service package, composed of individual service features, to best suit their needs. Customers can tailor their individual package from the following options:

- WearCare - Preventative Maintenance
- RepairCare - Emergency Repair
- EjectorCare - Ejector Service and Repair
- AnywareCare - Anyware Health Check and Alerts

**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**

Customers seeking the latest technology available on their optical sorter - whether software or extra functionality - benefit from a range of upgrade kits available.
Bühler inspection systems and options.

**Inspection Systems**

<table>
<thead>
<tr>
<th></th>
<th>MultiVision™</th>
<th>ColorVision™</th>
<th>DualVision™</th>
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- Detects the slightest colour variation by using multiple visible wavelengths.
- Detects light, dark, and other colour variations simultaneously by using up to two visible wavelengths.
- Detects both light and dark defects simultaneously by using two visible wavelengths independently.
- Detects either light or dark defects using one visible wavelength.

* Available for SORTEX A range only

**Product options**

**SORTEX A**

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For the full feature list and product specifications contact your local representative.