optimum SORTING

POTATOES

MAXIMUM YIELD, CONSISTENT QUALITY

Innovative optical sorting solutions
for potato processors





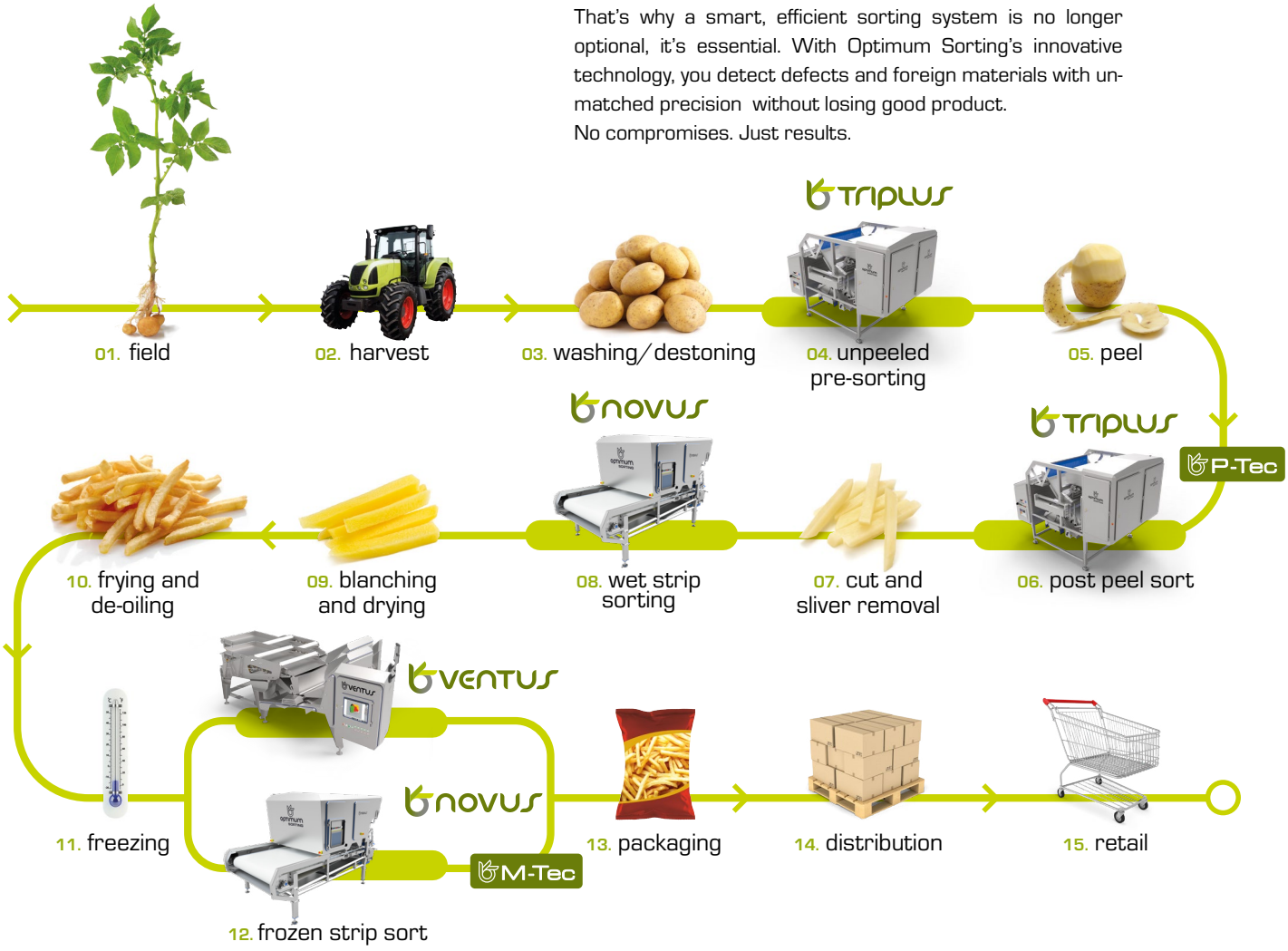
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YOUR CHALLENGE:
How to maximize yield from every harvest?

Potatoes are far more than just a basic ingredient: they're a global favorite. From crispy chips to creamy mash and golden fries, their versatility makes them indispensable in industrial food production. However, delivering a top-quality product starts with one essential step: flawless sorting.

As global demand for potato products continues to rise, so do expectations. Today's consumers demand nothing less than premium quality; consistently and without compromise. At the same time, food safety regulations are more rigorous than ever. In this high-stakes environment, even a single misstep (a shard of glass, a stray stone, or a flawed potato) can put your brand's reputation at serious risk. And then there's sustainability. Today's producers are expected to do more than deliver quality; they must do it responsibly. That means cutting waste, reducing environmental impact, and making every harvested potato count.

That's why a smart, efficient sorting system is no longer optional, it's essential. With Optimum Sorting's innovative technology, you detect defects and foreign materials with unmatched precision without losing good product.
No compromises. Just results.



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PERFECTION SORTED DOWN TO THE VERY LAST POTATO

OUR SERVICE = YOUR OPERATIONAL RELIABILITY

Integration
To integrate your solution, we rely on our network of specialized partners. After all, every production line is different and requires a tailor-made approach.

Training
We train your operators at your place, at the installation site or in our offices, so that they can optimally use your sorting systems.

Remote access
Our service engineers can be reached 24/7, by phone or E-mail. Thanks to secure remote access, they can quickly make a diagnosis and if necessary, immediately decide to arrange an on-site intervention.

Customized service
No maintenance contracts are needed to make sure you get the best available service for your installed sorters.

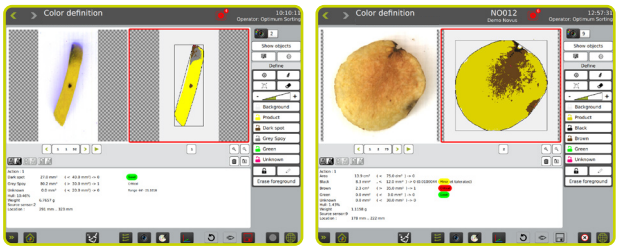
OUR SOLUTION

Whole potatoes, raw fries, frozen fries, chips, potato flakes... whatever potato products you want to offer, our Novus, Triplus, and Ventus sorting machines support multiple steps in your production process.

These optical sorting machines are the result of extensive research and development. They use a sophisticated combination of advanced cameras and lasers, with multidimensional image processing for superior quality, size and length sorting. High-resolution cameras detect discoloration and size and shape deviations, while laser sensors detect foreign objects and 'sugar ends' extremely accurately. Special lasers sort by biological characteristics, such as the presence of solanine (fluorescence lasers), acrylamides and water (SWIR or Short Wave InfraRed lasers). InGaAs camera technology offers an alternative to SWIR lasers.

Our sorting systems easily adapt to the required quality specifications (using a 2-way or 3-way sorting). Thanks to a unique, 2400 mm (94 in) maximum scan width, they not only offer greater capacity than other systems, the extra width ensures that the products to be sorted are more distributed across the inspection zone, allowing defective ones to be removed more accurately and reducing the risk of false rejections.





The user interface clearly distinguishes between discolorations, length, shape, and so on

SCAN OR CLICK

INTERESTED IN A FREE DEMO?

Get in touch with the sales team of Optimum Sorting and have your products tested at one of our demo centers around the globe. Experience firsthand the benefits our machines can bring to your business!



OPTIMAL DETECTION AND SORTING

PINPOINT IMPERFECTIONS WITH ACCURACY

Most image processing algorithms reduce the RGBi signal of a color camera from four to two dimensions, resulting in loss of valuable information. We make sure all signals, both from the cameras and from the different lasers, are interpreted simultaneously by means of our algorithms, resulting in a more accurate detection of foreign objects and defects, plus a lower risk of false detections.

REMOVE DEFECTS WITH PRECISION

Precise defect detection is meaningless without an equally precise ejection system. Our air valves have a center-to-center distance of 7.5 mm (0.29 in), compared to the standard 10 mm (0.39 in). This means more valves can blow more effectively, enhancing ejection accuracy. Additionally, we offer a high-resolution valve system with a center-to-center distance of 5.25 mm (0.21 in) for specific applications. Optionally, a double reject system is available resulting into a 3-way sort.

FINE-TUNE WITH DETAILED DATA

Why not use the data recorded by the cameras to adjust your sorting process where necessary? An optional module filters this data to parameters of your choice (length-width ratio, shape, color, defect level, etc.) and makes them available to your operators in a clear numerical or graphical way, so that they can intervene if desired. This module lays the basis for 'sort-to-spec'.

EXCEPTIONAL USER-FRIENDLINESS

QUICK AND EASY CALIBRATION

Establishing acceptance thresholds can be a lengthy and complicated process. But with systems of Optimum Sorting, it's different. Your operators don't have to deal with graphs or formulas. Our machines are able to calibrate themselves by using images of acceptable and unacceptable products.

INTUITIVE INTERFACE

Operating our sorting machines is incredibly simple, thanks to our user-friendly and intuitive graphical user interface (GUI). This interface is designed to ensure that your operators can effortlessly access and view all relevant information at a glance, making the entire sorting process smooth and efficient.

REMOTE CONTROL

If you want to operate your sorting machines centrally, then no problem! Our solutions are easily integrated into your network, so that your operators and supervisors can keep an eye on things from any network computer.

SUPERIOR DESIGN AND HYGIENE

EASY TO CLEAN

Optimum Sorting systems are made from stainless steel and all components to be cleaned are easily accessible. This way hygiene is guaranteed and cleaning costs you hardly any time and effort. Furthermore, our machines are designed to prevent any contamination from impacting the sorting efficiency.

RELIABLE EFFICIENCY

Our sorters excel in stability, which means that your sorting process requires virtually no manual intervention. You can switch from one product to another or from one specification to another with just one press of a button. And finally, their sturdy construction offers you a maximum uptime with minimum maintenance.



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SORTING SMARTER
WASTING LESS
SHAPING TOMORROW



SCAN OR CLICK

VENTUS

Ventus is the ideal solution for the precision sorting of frozen potato products.

This double-sided, free-fall laser sorter comes in various scan widths up to 1800 mm (71 in) and can be equipped with up to 16 lasers and 32 laser detectors. By combining different lasers with specific wavelengths, Ventus can sort with remarkable precision based on colour, shape, structure and biological properties.

With an impressive scan rate of more than 3,333 scans per second, Ventus offers the highest resolution of any laser on the market, effortlessly detecting even the smallest impurities. Our multi-dimensional laser system (MDL) processes all laser signals simultaneously, resulting in the highly accurate detection of foreign materials and defects and a reduced risk of false rejections. This sets Ventus apart from other systems. Rejected products can be categorised into different classes, such as 'foreign materials', 'colour' or 'shape'. With the Advanced Fluo Module, Ventus optimises the fluorescence of the sorted products.

For finer sorting needs, such as detecting small contaminants like stems or wood splinters, the Ventus can be fitted with ultra-fast, compact ejection valves with a centre-to-centre distance as small as 7.5 mm (0.29 in).

- Widest double-sided free-fall laser sorter
- Robust, advanced lasers
- Sorting based on colour, shape, structure and biological properties
- Superior resolution
- Advanced AI-based sorting software



SCAN OR CLICK

NOVUS

Novus is an optical belt sorter specifically designed to sort both dry products (e.g. potato chips and flakes) and wet products (e.g. raw and frozen fries). With a maximum scan width of 2400 mm (94 in), this is the largest optical belt sorter on the market. Depending on the width and application, it can be equipped with 3, 6 or 9 advanced high-resolution cameras for optimal defect detection and superior sorting accuracy.

Moreover, Novus can be expanded with a unique camera configuration specifically designed for sorting fries. Additional cameras are positioned to capture five of the six sides of each fry, providing a perpendicular view of every angle. Thanks to strategic IR lighting from below, measurements are not affected by belt contamination or shadowing, resulting in significantly improved sorting efficiency and accuracy.

- Widest optical belt sorter
- Excellent sorting accuracy
- Sort-to-spec capabilities
- Unique camera configuration for fries
- Expandable with laser and metal detection



SCAN OR CLICK

TRIPLUS

The Triplus is the only true free-fall sorter on the market, ideal for optically sorting whole potatoes and IQF french fries (Individually Quick Frozen). It is available in different scan widths up to 2400 mm (94 in), and is equipped with durable and energy-efficient LED lighting that produces little heat. Depending on the width and application, it's equipped with 4, 6 or 8 advanced high-resolution cameras for optimum defect detection and achieving an excellent good-to-bad ratio in the reject stream.

As a free-fall sorter, the Triplus is extremely compact. It has few moving components and therefore requires even less maintenance. Moreover, while falling, products may be viewed along two opposite sides, resulting in more accurate sorting.

- Robust free-fall sorter
- Sorting based on colour, shape and structure
- Sustainable LED lighting
- Advanced cameras and laser
- Excellent sorting accuracy



MODULAR DESIGN

Thanks to their modular design, our machines can be effortlessly tailored to meet your unique processing needs. And as your business evolves, so can our technology. Each system is fully field-upgradable, allowing you to seamlessly integrate the latest innovations and scale alongside new opportunities.

■ standard ○ option × not available

		VENTUS	NOVUS	TRIPLUS
Type		Free-fall laser sorter	Belt sorter	Free-fall sorter
Application		French fries and other frozen potato products	Raw or frozen French fries, chips, potato flakes	Whole potatoes, frozen French fries
Width		600 mm, 900 mm, 1200 mm or 1800 mm *24 in, 35 in, 47 in or 71 in*	600 mm, 1200 mm, 1800 mm or 2400 mm *24 in, 47 in, 71 in or 94 in*	800 mm, 1200 mm or 1800 mm *31 in, 47 in or 71 in*
Camera	MC, RGB, IRGB	×	■	■
	InGaAs	×	○	○
Laser	IR, SWIR, VIS, Fluorescence	■	○	○
French fry configuration		×	○	×
Sorting mode		Two-way	Two-way or three-way	Two-way or three-way
Air valves	Pitch 5.25 mm • *0.21 in*	○	○	×
	Pitch 7.5 mm • *0.29 in*	■	■	○
	Pitch 10 mm • *0.39 in*	○	○	■
Mechanical reject flippers		○	○	○
Data view*		○	○	○
M-TEC (metal detection)		×	○	×
P-TEC (optimized peeling performance)		×	×	○

* This module is being continuously developed. Contact us for an up-to-date overview of the functionalities.

optimum SORTING

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More info?

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