optimum SORTING

VEGE TABLES

MAXIMUM YIELD, CONSISTENT QUALITY

Innovative optical sorting solutions
for vegetable processors





WWW.OPTIMUM-SORTING.COM

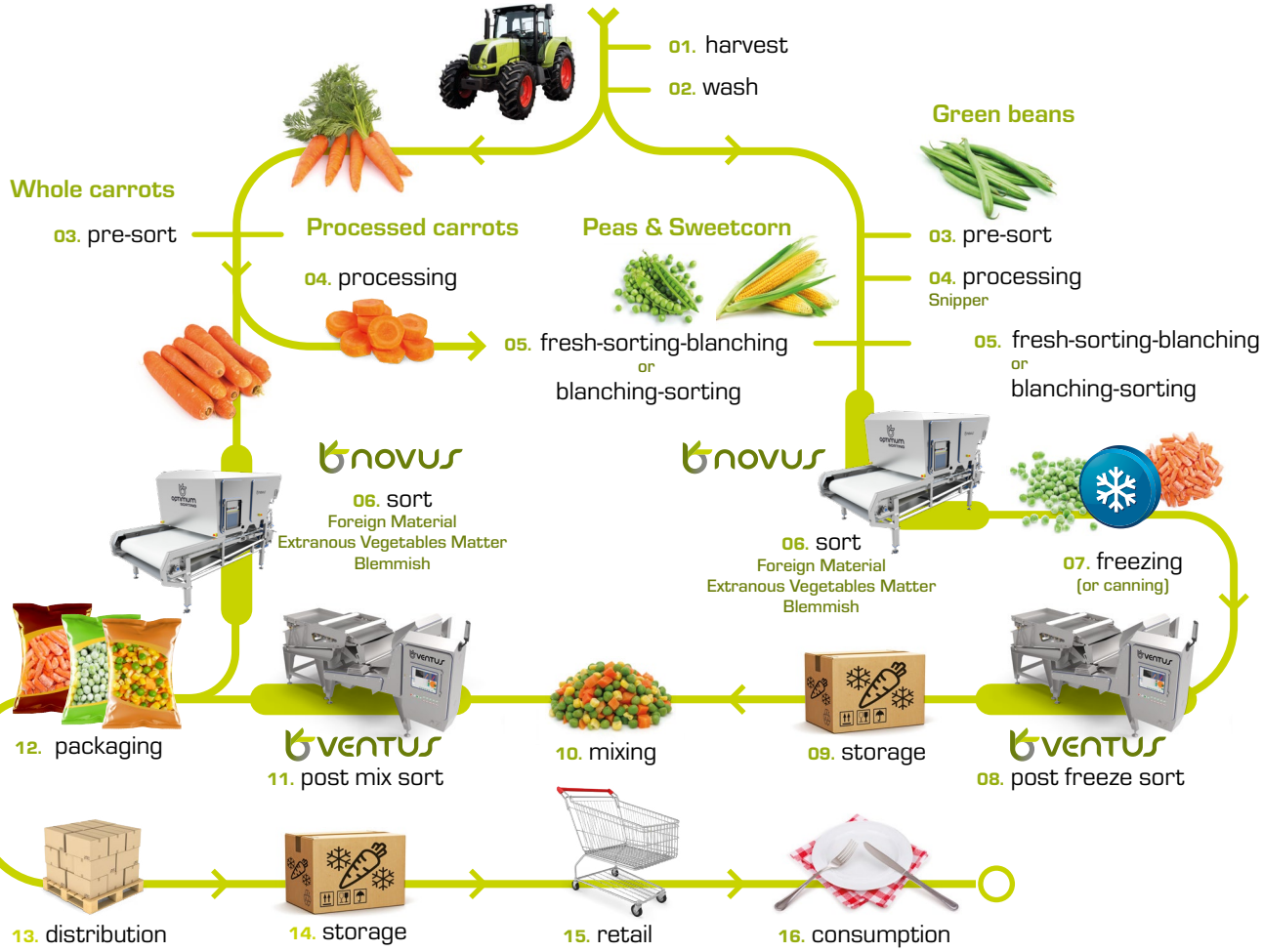
YOUR CHALLENGE:
How to maximize yield from every harvest?



Vegetables stand out for their undeniable versatility. From root crops to leafy greens, from beans to broccoli, they form the colorful foundation of countless dishes around the world. But with popularity comes responsibility. Demand is high, and expectations are even higher.

As a producer, you want to make every piece count. A single twig, a spot of rot, or a hint of discoloration can mean the difference between top quality and disappointment. And in a world where sustainability is no longer optional but essential, every vegetable matters. Less waste, maximum yield and a smaller ecological footprint define the new standard.

That's why smart sorting is key. With Optimum Sorting's innovative technology, you detect defects and foreign materials with unmatched precision, without losing valuable product. No compromises. Just results.



"

TOP QUALITY STARTS WITH OPTIMAL SORTING

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

The Novus and Ventus sorters offer solutions for different steps in the production process, whether it's for bulb vegetables, green beans, peas, leek, cauliflower, broccoli, spinach, salad, shoots, etc. Whole or shredded, fresh or frozen.

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 and you can choose between two-way or three-way sorting. Using 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.

Why choose between quality and yield when you can have both? With Optimum Sorting, you sort with unmatched precision and maximum efficiency. The result? Less waste, higher yield, and a final product that consistently delivers.



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, also 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.



"

SORTING SMARTER
WASTING LESS
SHAPING TOMORROW



SCAN OR CLICK

VENTUS

The Ventus is your workhorse for optimal sorting of frozen vegetables. This doublesided free-fall laser sorter is available in various scanning widths, up to 1800 mm (71 in). The Ventus can be equipped with up to 16 lasers (and 32 laser detectors). Thanks to the combination of different lasers with specific wavelengths, it sorts extremely accurately based on color, shape, structure and biological characteristics.

With an impressive laser scanning speed of more than 3,333 scans per second, the Ventus offers the highest resolution of any laser sorter on the market. It therefore effortlessly detects the smallest impurities. All the different laser signals are also processed simultaneously by our MDL system (Multi Dimensional Laser System), which results in more accurate detection of foreign objects and anomalies, and a lower risk of false rejects, giving Ventus the edge over other systems. Unacceptable products can be categorized into several classes, such as foreign material, color or shape. The Ventus can distinguish 8 classes of deviations and process them differently if necessary. With the Advanced Fluo Module, the Ventus is able to optimize the fluorescence of the products to be sorted.

In order to obtain an excellent good to bad ratio even for the very smallest products and impurities such as stalks or wood splinters, the Ventus can be equipped with ultra-fast and small discharge valves with a center-to-center distance of 4.6 mm (0.18 in).

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



SCAN OR CLICK

NOVUS

The Novus is an optical belt sorter ideally suited for sorting fresh vegetables in wet state, cut or whole, such as carrots and other tuberous vegetables, beans, peas and spinach, as well as the whole range of frozen (IQF) vegetables. With a maximum scanning width of 2400 mm (94 in), it is the largest optical belt sorter on the market. Depending on the width and application, it is equipped as standard with 3, 6 or 9 advanced highresolution cameras for optimal defect detection and an excellent good-to-bad ratio. With the optional laser sensors for detection of foreign objects, among others, you can further increase its sorting accuracy. The optional M-TEC module, for detection of metals, is made up of several coils, making its detection sensitivity greater than that of traditional metal detectors.

But that's not all: the Novus can be expanded with a unique camera configuration, specially developed for sorting diced carrots or other tuberous vegetables. The additional cameras are arranged so that five of the six sides of each cube are always viewed perpendicularly. And thanks to clever use of IR illumination along the underside, the measurements are not disturbed by any contamination on the conveyor belt. The result: a significant improvement in your sorting efficiency and accuracy.

- Widest optical belt sorter
- Excellent good-to-bad ratio
- Unique 3-in-1 combination of camera, laser and metal detection
- Advanced sorting software using AI
- Optimal flexibility and integration capabilities

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
Type		Free-fall laser sorter	Belt sorter
Application		Deep-frozen (IQF) vegetables	Whole or cut fresh vegetables and frozen (IQF) vegetables
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*
Camera	MC, RGB	×	■
	IRGB	×	○
	InGaAs	×	○
Laser	IR, SWIR, VIS, Fluorescence	■	○
Special camera configuration		×	○
M-TEC (metal detection)		×	○
Sorting mode		Two-way	Two-way or three-way
		DRS (Defect Return System)	DRS (Defect Return System)
Air valves	Pitch 4.60 mm • *0.18 in*	○	×
	Pitch 5.25 mm • *0.21 in*	×	○
	Pitch 7.50 mm • *0.29 in*	■	■
	Pitch 10 mm • *0.39 in*	○	○
Data view*		○	○

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

optimum SORTING

USA +1 (720) 586 6545
Belgium +32 (0)11 71 80 20

info@optimum-sorting.com
www.optimum-sorting.com

More info?

SCAN OR CLICK