

# WE sort THEM ALL

**NEW**

**HIGH-VOLUME 4K RGB AI SORTING  
FOR WASHED POTATOES.**

Designed for defects, discolorations and diseases – even at industrial throughput.



**available**

[www.insort.at](http://www.insort.at)





# Fresh-Pack Sorting. Reinvented.

**WE ARE PUSHING THE LIMITS OF FRESH-PACK SORTING –  
AND DEFINING A NEW STANDARD IN VOLUME, QUALITY AND VALUE.**

The SHERLOCK SEPARATOR FRESH has been purpose-built for washed potato applications where surface defects, discolorations and disease indicators drive sorting performance and product value.

Equipped with next-generation 4K RGB cameras and real-time deep-learning AI, it delivers exceptional detection accuracy at industrial scale – even at 60+ tons per hour.

Foreign material control is available as an optional upgrade, but it is not the primary focus of this Fresh-Pack application.

Once configured, the system runs autonomously:

**JUST SET IT – AND LET IT PERFORM.**



[Learn more](#)



# WE catch THEM ALL

**SURFACE DEFECTS, DISCOLORATION & DISEASE INDICATORS.**

**POWERED BY 4K RGB AI IMAGING AND DEEP NEURONAL NETWORKS, THE SHERLOCK SEPARATOR FRESH PROVIDES PRECISE DETECTION OF A WIDE RANGE OF SURFACE-DEFECTS, ENSURING STABLE FRESH-PACK QUALITY AT HIGH VOLUMES.**



## **SOME DEFECT EXAMPLES**



- Wet Rot
- Dry Rot
- Greening
- Harvest Damage
- Scab
- Freezing Injury
- Dehydration
- Lenticels
- Wire Worm Damage

- Brown Skin Marks
- Budding/Sprouting
- Mechanical Damage
- Splits/Cracks
- Healed Cavity
- Rhizoctonia
- Malformation
- Webbing
- Skinning

## **SYSTEM-BENEFITS**

- 4K RGB
- Deep Learning AI
- Separator rejection system
- 2, 3 or 4-way sort
- Size statistics
- Defect statistics
- Reject statistics
- Remote access



## DEEP LEARNING AI

APPLIED IN REAL-TIME

**THE SHERLOCK SEPARATOR FRESH EMPLOYS AN ADVANCED REAL-TIME DEEP-LEARNING ENGINE THAT HAS BEEN SPECIFICALLY TRAINED TO RECOGNIZE THE VISUAL CHARACTERISTICS OF WASHED POTATOES.**

Operating at millisecond speed, the system analyzes every product in freefall and interprets critical surface information such as discolorations, texture changes, bruising patterns and early-stage disease indicators. By continuously learning from natural product variability, the AI delivers remarkably stable sorting performance – even under fluctuating conditions such as seasonal differences, diverse potato

varieties or inconsistent washing quality.

Once configured, the deep-learning model requires no ongoing operator adjustment. It automatically adapts to product flow changes, ensuring consistent and reliable quality output throughout an entire production shift. This autonomy not only reduces manual intervention but also significantly enhances process stability for Fresh-Pack producers.



## 4K RGB VISION

TECHNOLOGY FOR SUPERIOR VISUAL PRECISION

**THE SHERLOCK SEPARATOR FRESH IS EQUIPPED WITH NEXT-GENERATION 4K RGB CAMERA SYSTEMS, DELIVERING STATE-OF-THE-ART IMAGING RESOLUTION. THIS SUBSTANTIAL INCREASE IN PIXEL DENSITY PROVIDES THE DEEP-LEARNING ENGINE WITH HIGHLY DETAILED SURFACE INFORMATION – A DECISIVE ADVANTAGE FOR FRESH-PACK APPLICATIONS WHERE SUBTLE DEFECTS MAKE A CRITICAL DIFFERENCE.**

### **Key advantages of 4K in washed potato applications:**

- Sharper detection of small bruises and subtle discolorations
- More reliable identification of surface-visible disease indicators
- Improved color fidelity for stable grading
- Higher confidence levels for AI-driven decisions
- Consistent quality at 60+ tons per hour

### **Setting a new benchmark**

With its advanced 4K vision platform, the SHERLOCK SEPARATOR FRESH delivers detection capabilities unattainable for older

camera systems – ensuring better sorting decisions, cleaner output streams and higher yield across every production hour.



## MODULAR EJECTION TECHNOLOGY

UP TO FOUR EXITS. ONE PURPOSE: MAXIMUM CONTROL

**THE SHERLOCK SEPARATOR FRESH FEATURES A HIGH-PERFORMANCE MODULAR EJECTION PLATFORM DESIGNED FOR THE INTENSIVE FLOW OF WASHED POTATOES.**

### Up to four independent sorting exits

- Exit 1: Accepted quality
- Exit 2: Second quality or size-based separation
- Exits 3 - 4: Optional streams for customized sorting (gross defects, foreign material, ...)

### Engineered for reliability

The vertical handling system is designed to keep potatoes intact, ensuring zero damage to good product – a critical requirement for retail-quality goods.



## HIGH-VOLUME PERFORMANCE & LINE PLACEMENT

BUILT FOR EXTREME THROUGHPUT

**THE UP TO 2400 MM WIDE SORTING PLATFORM ENSURES UNMATCHED PROCESSING CAPACITY.**

The SHERLOCK SEPARATOR FRESH delivers stable sorting accuracy – even at 60+ tons per hour. Every component has been engineered for durability and long-term uptime.

### OPTION

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## CHEMICAL IMAGING TECHNOLOGY

CIT® Gen3 - THE MOST ADVANCED SENSOR TECHNOLOGY

**POWERED BY THE LATEST GENERATION OF CIT® (CHEMICAL IMAGING TECHNOLOGY) AND HIGH-RESOLUTION COLOR CAMERAS, EVEN THE SMALLEST FOREIGN BODIES AND PRODUCT DEFECTS ARE DETECTED AND SORTED WITH UNMATCHED ACCURACY.**

Unlike conventional optical systems like lasers, cameras, or X-rays, CIT® analyzes the chemical composition of each product in real time – ensuring maximum reliability,

regardless of product type, defect, or seasonal variation. No constant operator adjustment is needed. Just consistently precise sorting.



## **ZERO DOWNTIME**

### **ENGINEERED FOR ZERO DOWNTIME**

A reinforced stainless steel frame, ultra-stable freefall mechanics and low-maintenance design ensure continuous operation in industrial environments.



## **4K RGB AI VISION**

### **ENGINEERED FOR VISUAL PRECISION**

Next-generation 4K RGB AI vision delivers superior surface detail, enabling reliable detection of subtle defects and consistent Fresh-Pack sorting at industrial scale.



## FLEXIBLE INTEGRATION INTO INDUSTRIAL FRESH-PACK LINES

The SHERLOCK SEPARATOR FRESH is designed for strategic placement in high-volume production lines and integrates easily into existing infrastructures.

## DIMENSIONS

- Working width: from 600mm up to 2400mm
- Throughput: up to 60+ t/h
- Sorting principle: In-Air, up to 4 exits
- Camera system: 4K RGB (CIT® optional)

## PLACEMENT

The placement of the SHERLOCK SEPARATOR FRESH within the production line is highly versatile. It is the ideal (pre-)sorting stage for very high product volumes, ensuring a clean and consistent product flow from the outset. With the optional CIT® upgrade, it can also be installed at the end of the line as a final safety check, providing maximum foreign-material protection before packaging or delivery to retail.



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