BLUEIGHT TECHNOLOGY

rayTec ®
V I S I O N

Innovation in Sorting Equipment

SPRAY

DISCOVERY

Software GUI
unYco

VISIRAY²
inside

SORTING MACHINES WITH CAMERA AND AIR-JET EXPULSION SYSTEM
Designed specially for controlling small-sized food products

SPRAY DISCOVERY

Highly versatile and efficient

With **Discovery** and **Spray**, Raytec has designed machines that encompass flexibility, with the key features of strength, durability and easy maintenance.

Integrating **artificial vision technologies** to produce the most effective tool in the current market for optical sorting.

These systems are perfectly suited to the needs of modern food processing operation that demand machines able to **sort a wide variety of products**.

Our technical features make these units the most complete solutions available on the market today.

3WAY OPTION

3 WAY

SPRAY and **DISCOVERY** can be equipped with double rejection system.

Rejection systems can be:
- Air-Jet + Air-Jet;
- Air-Jet + Pneumatic Fingers;
- Pneumatic Fingers + Pneumatic Fingers.

BLUEIGHT TECHNOLOGY

Customers benefit from the unique **Raytec Blueight technology** installed on both **Discovery** and **Spray** sorters. This incorporates in one machine the technologies that other manufacturers typically do on separate platforms.

HSL	CIT	BLOB	SHAPE	STEM	GLASS	BIG STOP
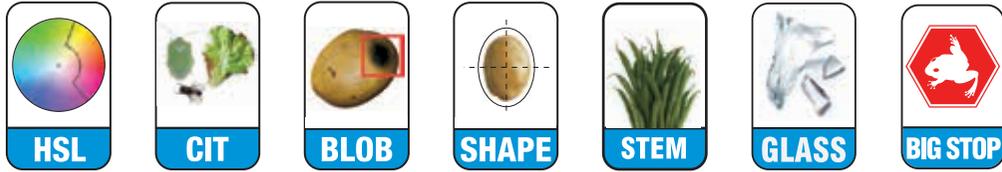
The HSL Colour function
HSL (Hue, Saturation, Lightness) is a color analysis function. Compared to RGB, HSL is a color representation similar to human perception.

The Cit function
Visible color analisis is often insufficient for the identification of foreign bodies. CIT (Chlorophyll, Infrared, Transparency) analisis highlights foreign bodies on the basis of: low fluorescent light emission, low infrared light reflection, transparency.

The Blob function
A "Blob" is a group of pixels next to each other that are recognized as incorrect by the sorting recipe. The BLOB function rejects only the groups of pixels (blobs) whose sum of weights is higher than a defined value.

The Shape function
The SHAPE function calculates nine mathematical parameters for each inspected object. Those parameters are representative of geometric characteristics of the object such as eccentricity, compactness, or the presence of protuberance.

Stem function
The STEM function allows the detection and rejection of any stalk or stem or wire that can be present in the product. STEM function analyzes if there are thin objects in the product stream.

The Glass function
This function allows the detection and rejection of any kind of transparent piece of glass and plastic. The GLASS function can be used with every kind of product as it does not influence the other sorting parameters.

Function Big Stop
This function allows controlling the presence of dangerous foreign bodies that we can find. The typical samples are the frog or the mouse. The "Big Stop" allows a series of programmable choice as: object calculation allocated in three different classes of dangerousness. Automatic imagine capture of dangerous contaminates, alarm generation (with option to stop the machine).

LIGHTING SYSTEM
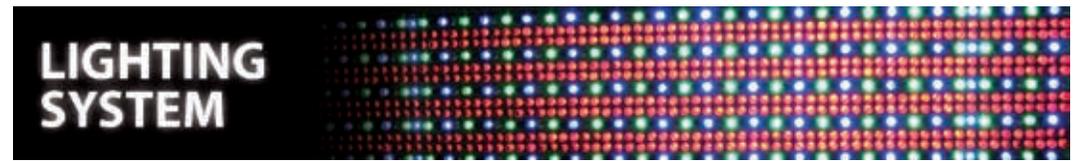
Raytec has always used the latest **pulse (flash) L.E.D. technology** as a light source.

Discovery and Spray can use simultaneously up **to 8 digital signals** obtained by different light sources, offering unprecedented application flexibility to the customer.

The combination of these technologies increases performance and overall machine efficiency.

Both the **Spray** and **Discovery** machines use light sources in the main **frequencies of the visible spectrum**, and importantly **frequencies of the Near Infrared spectrum** (NIR). This NIR technology enables the software to sort product using parameters which are independent of colour.

SMART-JET
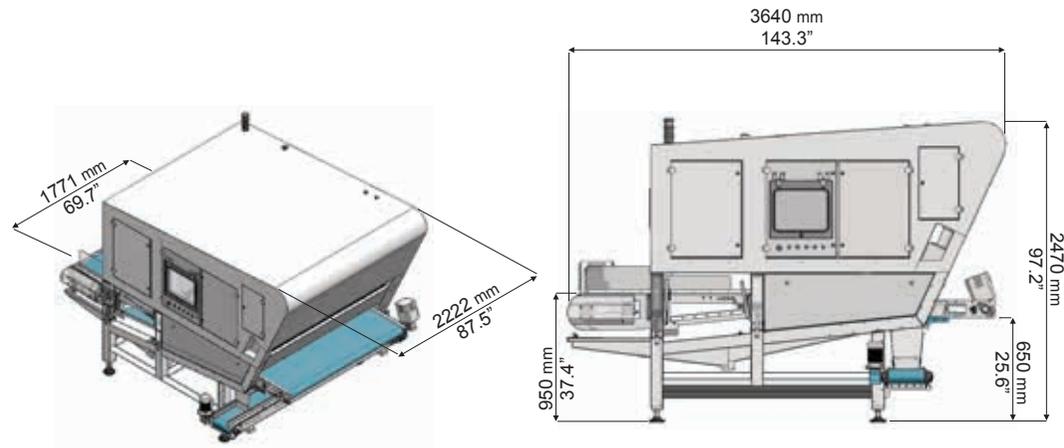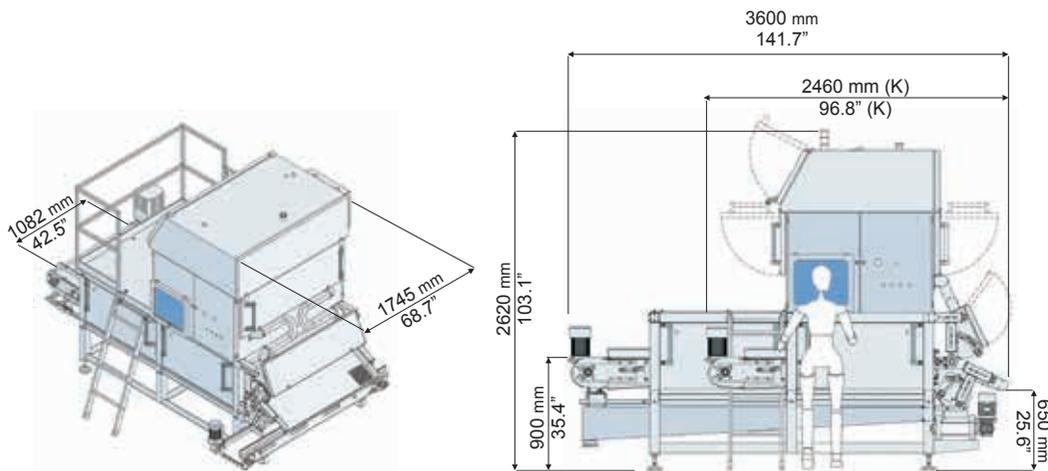### AIR FLOW CONTROL FOR RELIABLE REJECTION
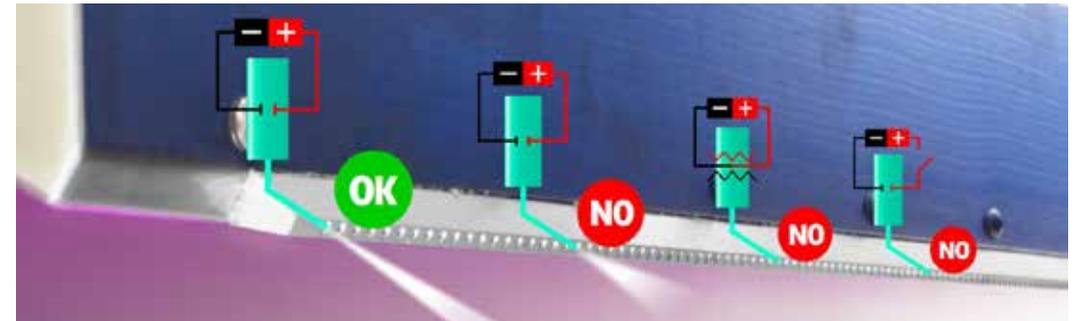
Raytec goes a step further!

All the machines available on the market today have driver cards for ejection valve control that can recognize electrical faults: open circuit or short circuit. But users of optical-electronic sorters know that this type of problem rarely occurs.

The pneumatic circuit of the **valve is where a failure is more likely to occur and lead to rejection errors.** Raytec is the first company in the world to create a valve monitoring system that works in real time, i.e. while the machine is in operation.

NOT a function that needs to be activated when the machine is in test phase, but a continuous inspection that checks response time and valve opening at each ejection.

ver.06/**2016**

SPRAY

DISCOVERY

3600 mm
141.7"

2460 mm (K)
96.8" (K)

1082 mm
42.5"

1745 mm
68.7"

2620 mm
103.1"

900 mm
35.4"

650 mm
25.6"

3640 mm
143.3"

1771 mm
69.7"

2222 mm
87.5"

2470 mm
97.2"

650 mm
25.6"

950 mm
37.4"

TECHNICAL FEATURES

Optical Resolution	0,5x0,5mm [0.02"x0.02"]
Air Nozzles	176
Nozzle pitch	6mm [0.24"]
User Interface	15" LCD touch-screen monitor
Remote Connection	Ethernet
Conveyor Speed	60-150 m/min [197-492 ft/min]

UTILITIES
*according to washing frequency - ** according to reject rate

Power Supply	3F+T [3PH+GND]
Voltage	400/480 V
Frequency	50/60 Hz
Installed Power	6 kW
Water Temperature	4-30°C [40-86°F]
Water Pressure	2-3bar [29-44psi]
Water Consumption*	1-2m3/h [264-528gph]
Air Pressure	6-8bar [87-116psi]
Air Consumption (Typical)**	300Nl/min [10Ncuft/min]
Air Consumption (Maximum)**	1200Nl/min [42Ncuft/min]

Dimensions, Specifications and Utilities are subject to change without notice

TECHNICAL FEATURES

Optical Resolution	0,5x0,5mm [0.02"x0.02"]
Air Nozzles	288
Nozzle pitch	6mm [0.24"]
User Interface	15" LCD touch-screen monitor
Remote Connection	Ethernet
Conveyor Speed	60-240 m/min [197-787 ft/min]

UTILITIES
*according to washing frequency - ** according to reject rate

Power Supply	3F+T [3PH+GND]
Voltage	400/480 V
Frequency	50/60 Hz
Installed Power	7 kW
Water Temperature	4-30°C [40-86°F]
Water Pressure	2-3bar [29-44psi]
Water Consumption*	1-2m3/h [264-792gph]
Air Pressure	6-8bar [87-116psi]
Air Consumption (Typical)**	450Nl/min [16Ncuft/min]
Air Consumption (Maximum)**	1800Nl/min [63Ncuft/min]

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