



**ViSort** is the original innovative vision software system designed by a group of our designers and programmers to measure and clasify all types of products according to the different parameters. Our modular vision system can be adapted to every type of sorting machine whilst improving the sorting proccesses. The system is configured according to individual orders submitted by the clients. The programme enables the user the ongoing monitoring of results of analysed products' measurement and classification.

## CLASSIFICATION PARAMETERS PROCESSED BY THE VISORT SYSTEM: SIZE | COLOUR | WEIGHT | INTERNAL AND EXTERNAL QUALITY



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THE RECOGNIZED ADVANTAGES OF THE VISORT SYSTEM:

- flexibility
- versatility
- high quality
- high measurement accuracy
- high efficiency
- position verification
- possibility of simultaneous application of all classification parameters
- · possibility of integration with different external databases
- time saving
- the easy to use
- sorting process optymalization

# CLASSIFICATION PARAMETERS PROCESSED BY THE VISORT SYSTEM

SIZE

The VISORT enables the user to analyse the width and height of the sorted products proceeding through the analysis of a series of images including characteristics of each product (e.g. its shape). Example of apple classification according to the shape:



The used algorithm recognizes positioning of stalk and core of sorting apple and ensuring thereby precise measurement of product size.



Our system enables the user to analyse the colour of sorted products. The cameras installed in Visort system analyse a series of images and enable recognition of the product according to:

- the percentage content of colouring (e.g. searching apple blush)
- the estimation of the average colour value or maximum colour value.



Example of apple classification according to the colour.

VISORT system enables the user to analyse the sorted products according to their weight. Using the electronic strain gauges, digital signal filtration and the reduction of noises, fast and modern weighing module enables precise measurement of sorted product in real time, which is several times shorter than it used to be.

Example of product classification according to real-time weight measurement.

# EXTERNAL QUALITY

Gauge Global Graph

VISORT system enables the user to analyse the sorted products according to the external quality. The cameras installed in Visort system analyze the product surface and recognize defects seen in the visible light spectrum or intra-red light (damages such as e.g. scabs, hail damages, bruising, russeting, mould, rotting).



Example of lemon classification according to external quality measurement.

The programme enables the user the monitoring of defects on the whole surface of scanned product which is turned 360° in order to exclude double identification.



### **INTERNAL QUALITY**

VISORT system enables the user to analyse the sorted products according to the internal quality. The cameras installed in Visort scan the products and recognize internal damages which may have as well as allow to eliminate products containing extraneous objects. In the case of fruits it is also possible to the analysis of the total sugar content. VISORT can also check if the fruits are characterized by high or low Brix value.