Design and function of the Mogensen sorter

The material is loosened and fed to a chute. Here, it is accelerated and while it is falling down from the chute it is scanned by one or more high-resolution color line cameras across the whole working width. The scanned images are evaluated by a parallel-working computer and, within just a few milliseconds, compressed air valves are addressed in a controlled way and blow off a undesired part from the material flow.

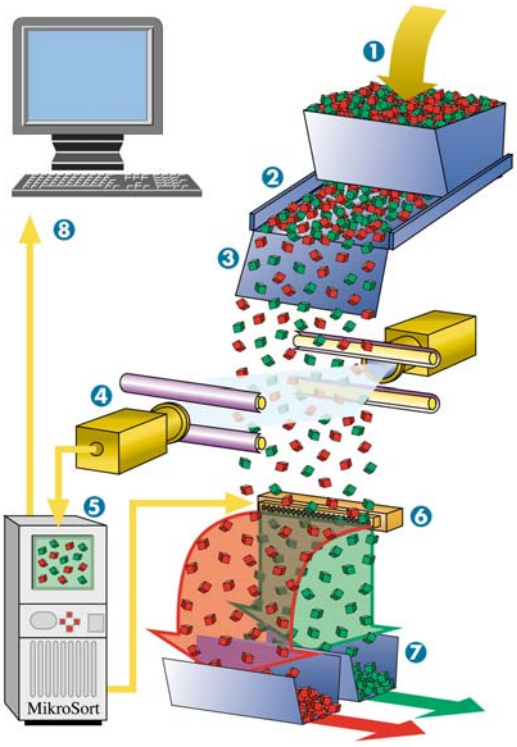

Illustration:
Functional principle of optical sorting system

1. Material feed
2. Distribution and transportation
3. Acceleration and individualisation
4. Scanning of the material by various optical systems
5. Evaluation by means of past parallel processing technology
6. Separation by means of exact compressed air impulses
7. Discharge of the separated product streams
8. Network connection

Sorting requirements

The separating principle works for particle sizes between 1 and 250 mm provided that the following requirements are met.

1. The materials to be separated must have a different color. Minor color differences are sufficient, with a certain conditioning of the material being required (e.g. washing, moistening, dewatering or drying).

2. It must be possible to thin out the material.

3. The particle grain size range fed into the sorting system should be as narrow as possible in order to be able to adjust the sorting parameters, the air pressure and the separating range to the product perfectly.