REDWAVE®

QUALITY MANAGEMENT SYSTEM

for sorting plants

Glass | Paper | Plastics | Wood | Metals | Minerals

Focus on Quality

GLASS APPLICATION

Available data for quality report:

- Product quality:
  Counted pieces or objects of analysed material
  by assigning theoretical weight, percentages of classes can be reported:
    - % of flint glass
    - % of amber glass
    - % of green glass
    - % of CSP (Ceramics, Stones, Porcelain) content
    - % of metal content
    - % of lead content
    - % of other heavy metals (Strontium, Barium, etc.)
    - % of glass ceramics (heat resistant glass)

- Colour distribution (shows if the colour quality of the fraction is according to spec)
- Size distribution (shows if the screen mats are according to spec)
- Recording which material is analysed via time and/or batch numbers
- General process plant data and trends are recorded

If one of the figures is above or below a certain threshold a warning or request for action is sent to the plant control system.

PAPER APPLICATION

Available data for quality report:

Percentage of material classes of visible two-dimensional surface
by assigning theoretical weight, percentages of classes can be reported:

- Deinking content by:
  office paper, white office paper, high gloss magazine cover, magazines,
  magazines in light plastic packaging, newspaper, offset print or flexo print

- Contamination content by:
  corrugated brown, cardboard, grey cardboard, printed cardboard,
  polymers such as PE, PP, PET, PVC, PS, ABS, …

- Recording which material is analysed via time and/or batch numbers

- General process plant data and trends are recorded

If one of the figures is above or below a certain threshold a warning or request for action is sent to the plant control system.

PLASTICS APPLICATION

Available data for quality report:

Percentage of material classes of visible two-dimensional surface
by assigning theoretical weight, percentages of classes can be reported:

- Desired product: e.g. PET
- Undesired product: PE, PP, PVC, PS, ABS, PA, PC, PC+ABS, PMMA, POM, PUR, Silicon, …
- Recording which material is analysed via time and/or batch numbers
- General process plant data and trends are recorded

If one of the figures is above or below a certain threshold a warning
or request for action is sent to the plant control system.

WOOD APPLICATION

Available data for quality report:

Percentage of material classes of visible two-dimensional surface
by assigning theoretical weight, percentages of classes can be reported:

- Desired product: e.g. virgin wood, painted wood, plywood, chipboard, OSB, …
- Undesired product: Medium Density Fibre (MDF) material
- Recording which material is analysed via time and/or batch numbers
- General process plant data and trends are recorded

If one of the figures is above or below a certain threshold a warning or request for action is sent to the plant control system.

METAL APPLICATION

Available data for quality report:

Percentage of material classes of visible two-dimensional surface
by assigning theoretical weight, percentages of classes can be reported:

- Desired product: e.g. Fe
- Undesired product: Cu, Zn, Cr, Mo, Ni, Sn, Pb,…
- Size distribution (shows if the screen mats are according to spec)
- Recording which material is analysed via time and/or batch numbers
- General process plant data and trends are recorded

If one of the figures is above or below a certain threshold a warning or request for action is sent to the plant control system.

MINERAL APPLICATION

Available data for quality report:

- Input control
- Product quality
- Colour distribution (shows if the colour quality of the fraction is accord. to spec)
- Recording which material is analysed via time and/or batch numbers

- Metal content
- Mass flow control
- General process plant data and trends are recorded
- Grain size distribution (shows if the screen mats are according to spec)

If one of the figures is above or below a certain threshold a warning or request for action is sent to the plant control system.

REDWAVE®

REDWAVE QUALITY MANAGEMENT SYSTEM (QMS)

The Quality Management System guarantees optimum performance of the sorting process and the recovery of high quality recycled products.

Input sample analysing (REDWAVE SAS)

For analysis of the infeed material.

Samples are taken from the input material received from different suppliers for being analysed before processing. For analysing the samples run through a REDWAVE SAS (Sample Analysing System).

Process Monitoring and Control System (REDWAVE PMCS)

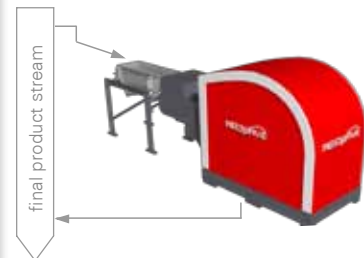For continuous monitoring and control of the complete sorting process.

The individual sorting steps are permanently analysed to continuously monitor and optimize the complete sorting process.

1. REDWAVE specifications

2. Load of the entire REDWAVE

3. Load of each channel of REDWAVE

4. Signal, to decrease/increase the input feeding, to bring the REDWAVE into normal load range.

5. REDWAVE shows the 25, median and 75 measure points. If the values are out of range, the grain size of the input material is not correct.

Output quality control (REDWAVE SAS)

For continuous control and automatic online analysis of the final product.

Sample of the final product stream runs through REDWAVE SAS (Sample Analysing System) and controls and analyses the quality of the final product.
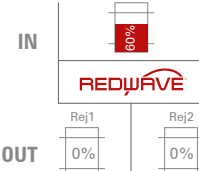
final product stream

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1 M051

| 1300mm |
| One-Slide |
| 3-Way |
| Sorting Program Nr.: 5 |

2 LOAD

60%

3

IN

60%

REDWAVE

Rej1   Rej2

OUT   0%   0%

4 FEEDING MONITORING

Increase Feeding

5 SCREENMATS

25	Median	75
6	7	8

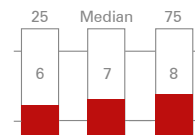## CUSTOMER BENEFITS:

- Automated quality control of high volume samples or streams
- Continuous product analysis (grain size, weight, colour distribution)
- Quality assurance and quality control already during sorting process
- Clearly-structured graphics
- Warning message if benchmarks are fallen short of or exceeded

- Fault finding assistance (sorting machines, screen mats)
- Increase of plant efficiency due to targeted data evaluation
- Archiving of previous analyses and monitoring over a long period
- Certified result for customers and suppliers
- Retained data for trend forecasts etc.