

***“The whole world, as we experience it
visually,
comes to us through the mystic realm of
color”***



BUHLER SORTEX Z+

Advanced Cleaning
House Technology
through Color Sorting

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IAOM Muscat / Oman 2007*

Challenges By Cereal Grain Market

- Consumer preferences for high quality and healthy end products
- Changes in farming practices resulting in higher contamination in grain
- More stringent regulations regarding purity of end products and product safety
- Rise in energy costs which requests the search for ways to reduce operational costs

BUHLER SORTEX

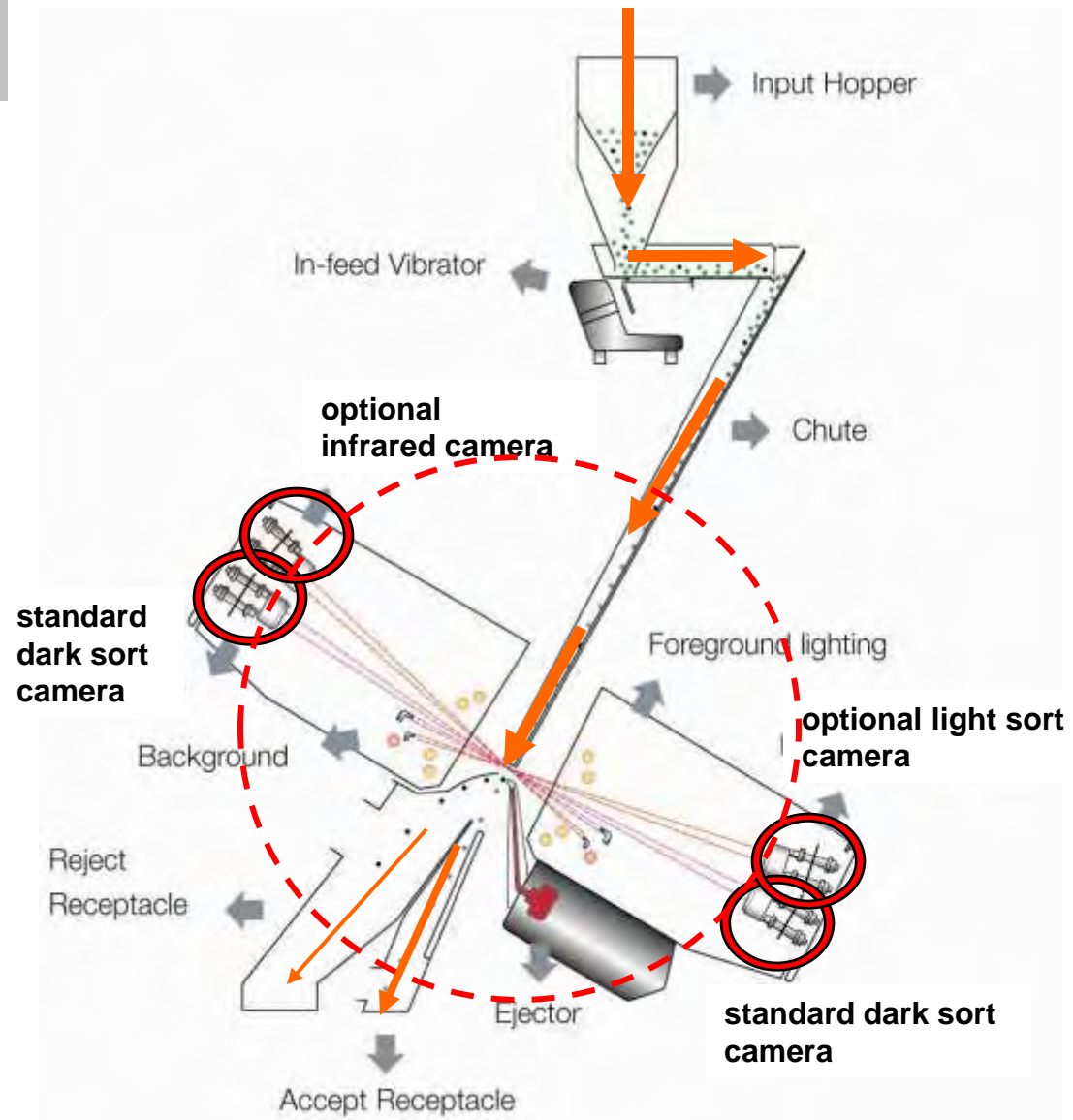
optical sorter

- High sorting accuracy & yield for discoloured kernels
- Reliable, consistent sorting performance
- Easy operation
- High capacities!



Working Principle

- Feed System
- Optical Inspection System
- Data Processing
- Ejection Mechanism



Defects removed by **BUHLER SORTEX Z-Series** with dark sort camera



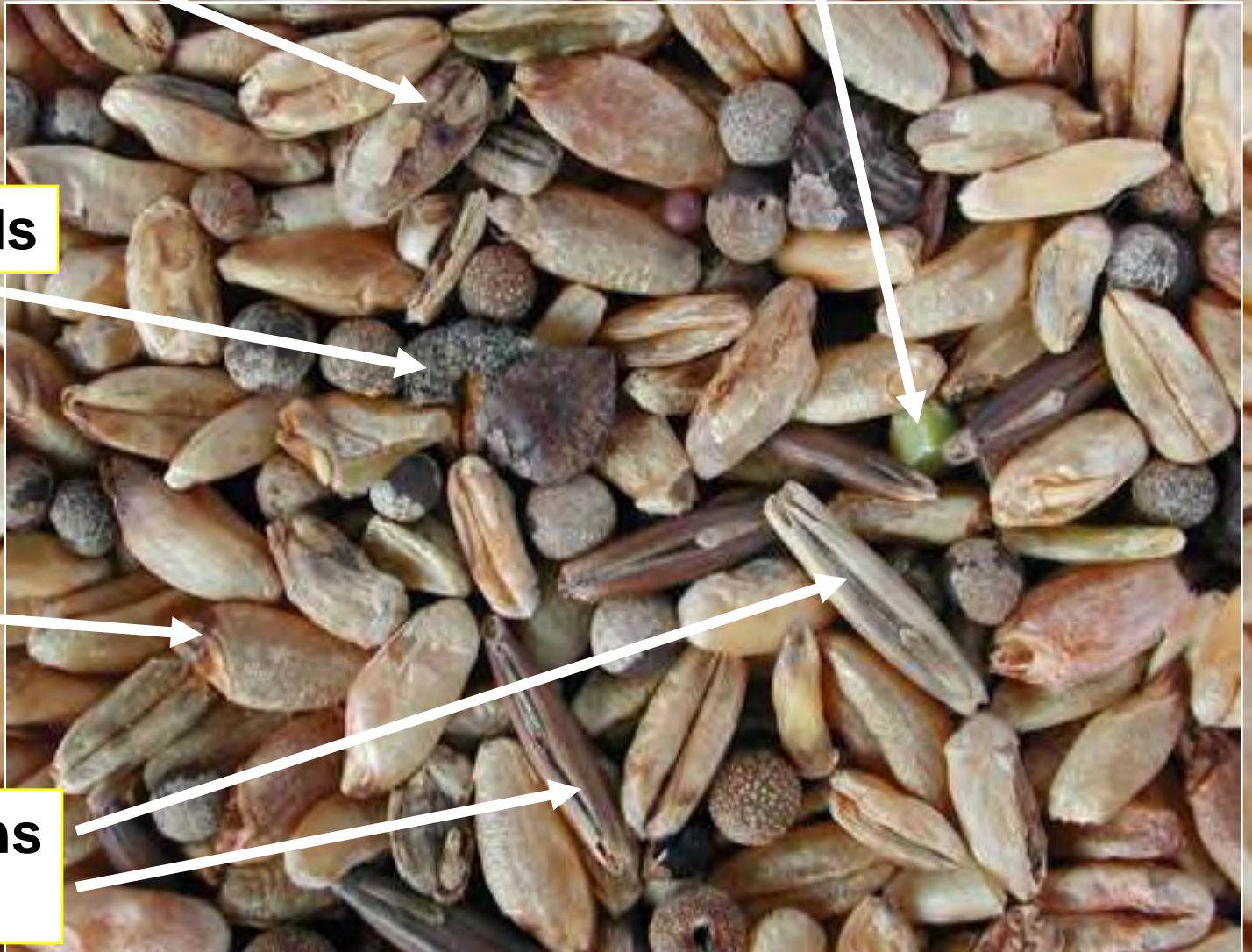
Diseased kernels

Immature, green grains

Foreign seeds

Tip defects

**Foreign grains
(e.g. oats)**





Tip defects



Diseased kernels



Foreign seeds



Ergot

Variety of defects found in wheat cleaning section



Recent development of BUHLER SORTEX Z series for wheat

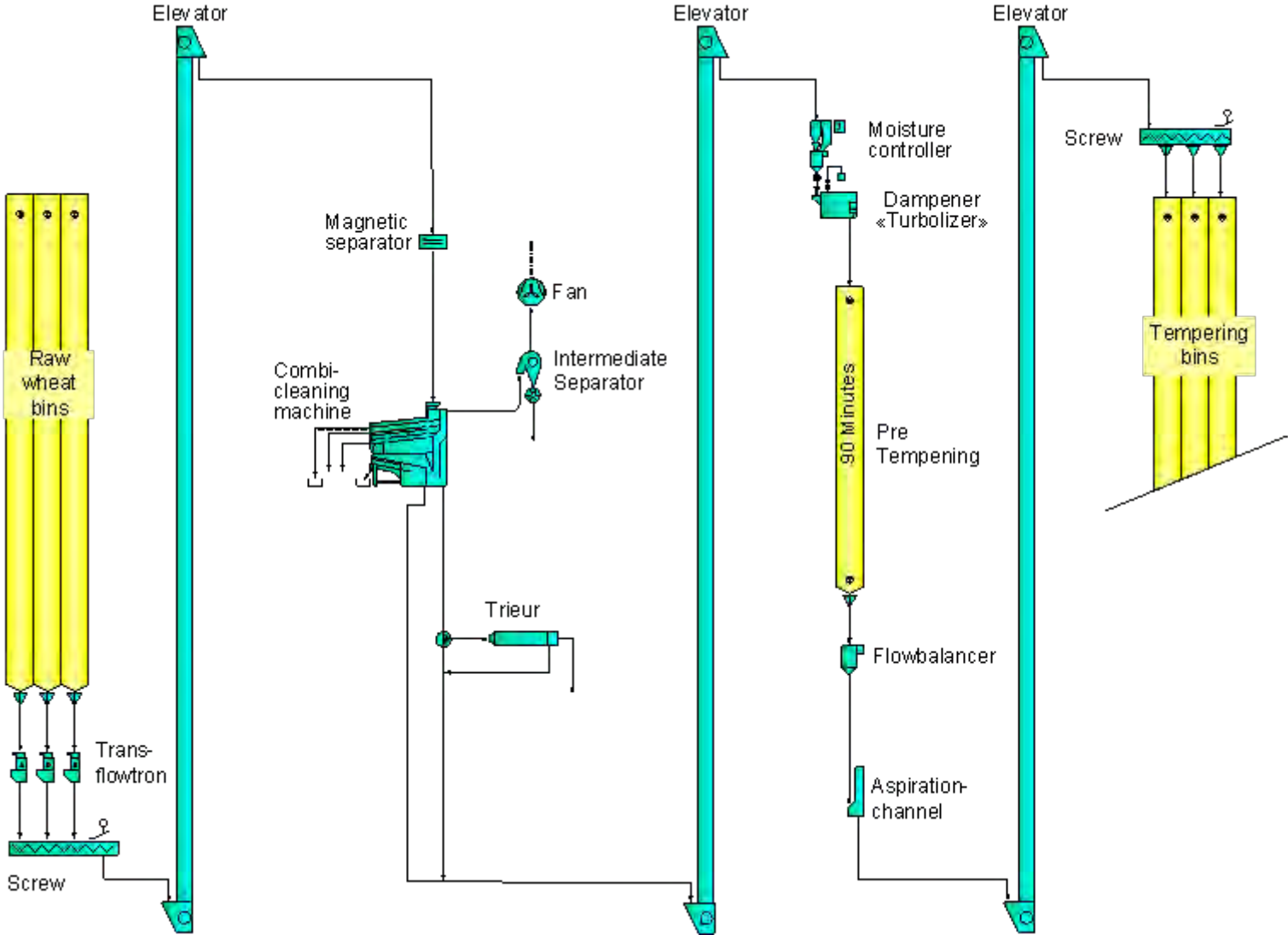
- High performance sorting technology for increased capacity – up to 24 t/h (with resort) on 1st Cleaning for 1 x Z4 (4 chutes)
- Optical processing – viewing in 3 spectras
- Further integration into automation systems for advanced control of colour sorter

Integrating an optical sorting into a wheat cleaning section

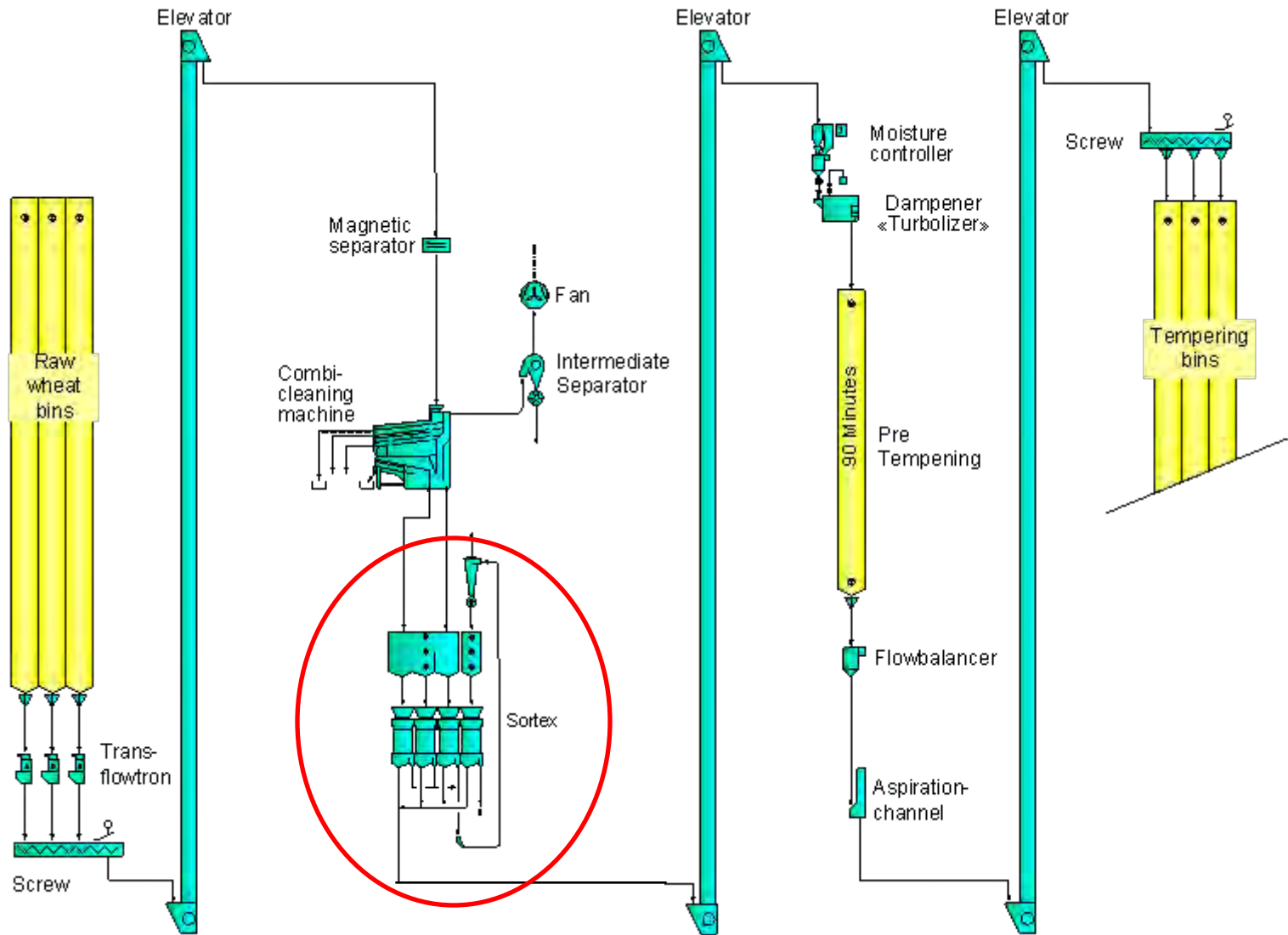
First Cleaning Section

Second Cleaning Section

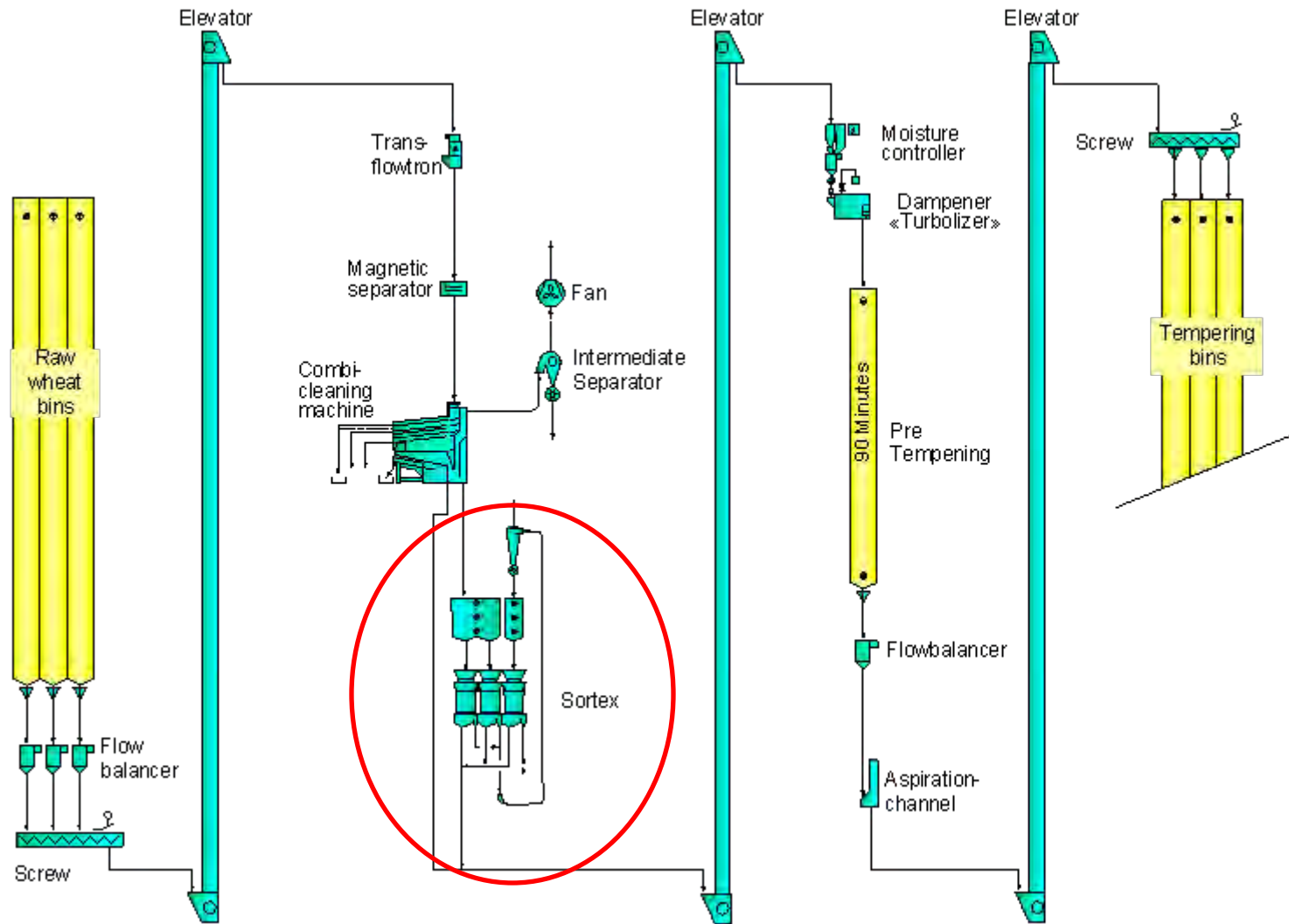
Basic 1st cleaning flow sheet



Optical sorting of whole stream „1st cleaning“



Optical sorting of mix product „1st cleaning“



Typical installation in 1st cleaning section

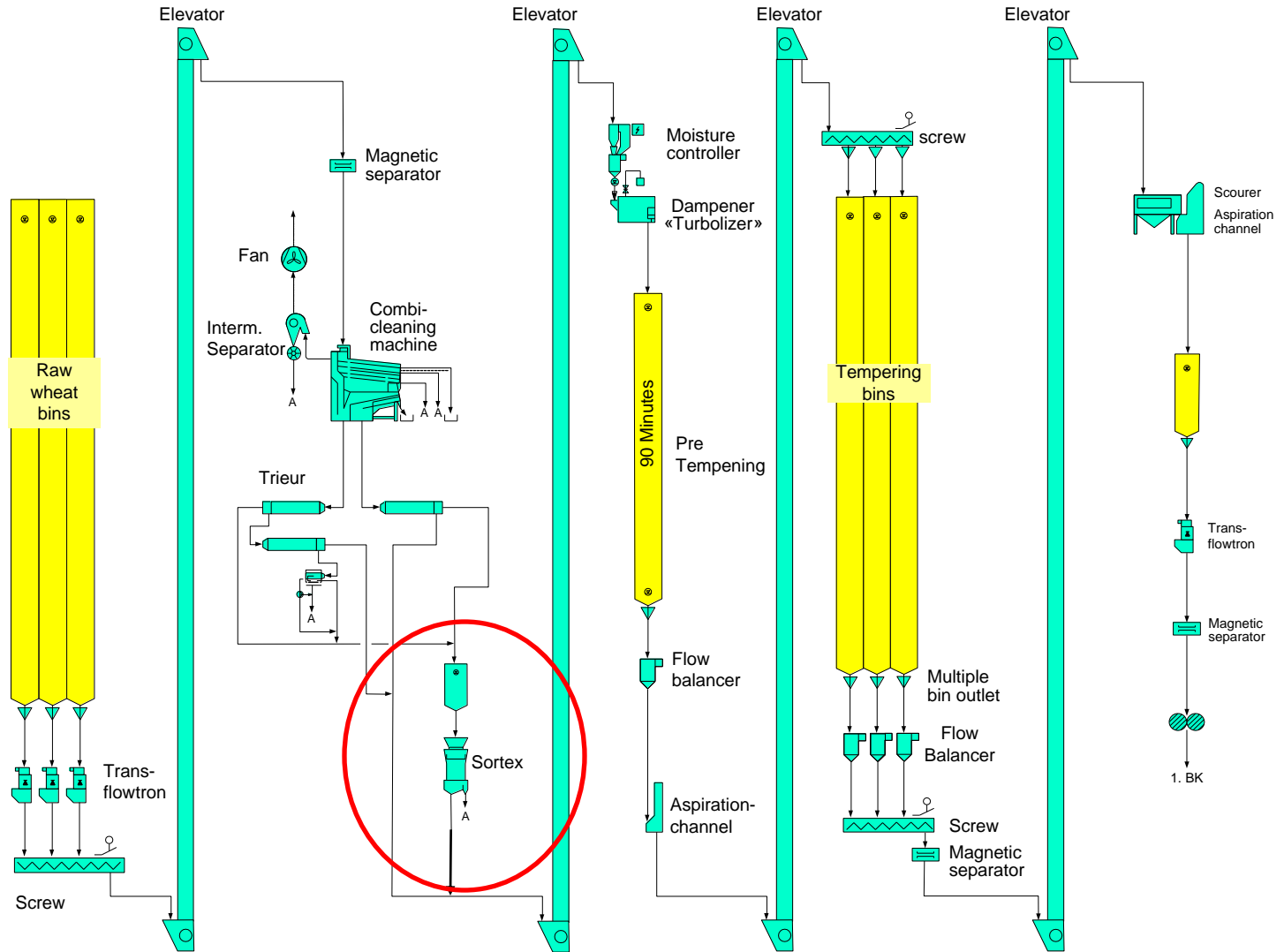
- Dark sort camera
- Light sort camera



Typical reject from 1st cleaning section



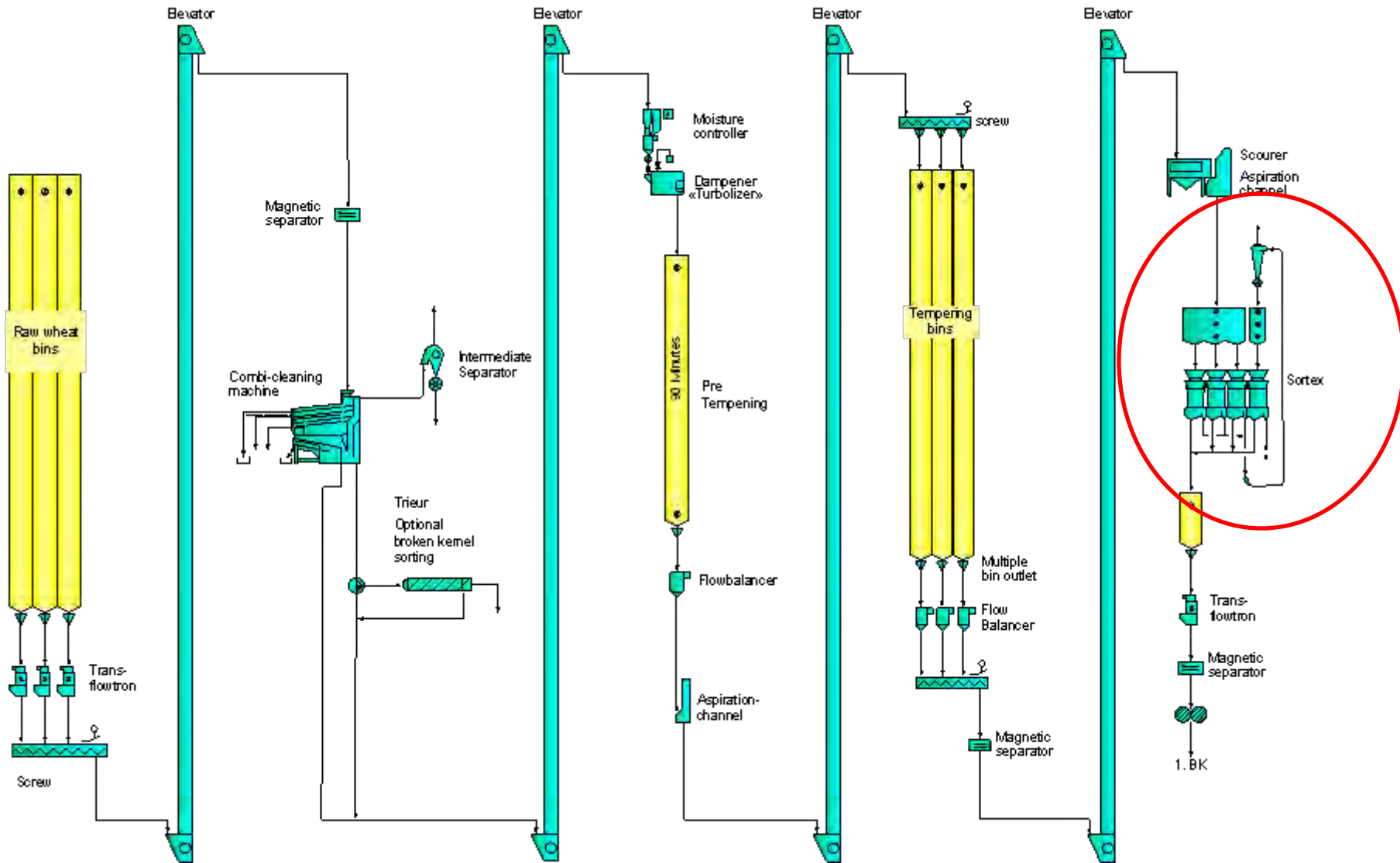
Optical sorting of broken wheat and round seeds „1st Cleaning“



Broken durum wheat and round seeds



Optical sorting in the 2nd cleaning



Typical reject from 2nd cleaning section.



Conclusions

BUHLER SORTEX Optical Sorting:

- Proven technology in Wheat Cleaning
- Alternative to some mechanical cleaning equipment
- Key to consistent quality and product safety
- Potential to reduce energy costs, wear and tear and space

BUHLER SORTEX Optical Sorting Systems

Cereal Grain Markets current and future requirements:

- **Product Quality**
 - **Product Safety**
 - **Cost Saving**



Thank you for your attention!