MINERAL SORTING

Applications

Industrial minerals
- Calcite / Dolomite
- Feldspar
- Lime stone
- Magnesia
- Quartz
- Rock salt
- Silicium
- Talc
- Phosphate

Base metal
- Bauxite
- Copper
- Iron ore
- Lead
- Manganese
- Nickel
- Zinc
- Aluminium

Precious metal
- Gold
- Silver
- Platinum
- Palladium

Gemstones
- Diamonds
- Tanzanite
- Emeralds
- Topaz
- Aquamarines
- Rubies
- Alexandrite

Sensor based sorting machines

www.redwave.com
REDWAVE COMPETENCES AND TECHNOLOGIES:

- Feeding system
- Crushing
- Screening
- Conveying
- REDWAVE ROX sensor based sorting technology
- Turnkey plant solutions

CUSTOMER BENEFIT:

- Single or double side scanning
- Up to 2,000 mm working width
- Identification and sorting of different materials according to colour, brightness and transparency
- Identification and sorting according to elemental composition
- High capacity
- High recovery rates and availability
- Fast payback period
- Proven economical sorting solution
- Dry and wet sorting technology
- Multi-sensor systems

FUNCTIONAL PRINCIPLE OF REDWAVE ROX:

The material is fed over the entire sorting width by a vibration feeder. The material is then scanned and identified by the sensor system single or double sided while in free fall. If the identified minerals meet the set ejection parameters, a signal is sent to the ejection units. Single high speed air jets operated by compressed air, eject the identified mineral. The number of activated single solenoids depends on the size of the identified part.

SENSOR BASED SORTING MACHINES

The REDWAVE ROX sorting machine has been developed for improving the quality of various minerals, ores and gemstones such as calcite/dolomite, quartz, talc, gold, nickel, magnesite etc.

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REDWAVE ROX for colour and material recognition:

- for industrial minerals, base and precious metal ores or gemstones
- for recognition of the chemical composition working with EDXRF energy dispersive X-ray fluorescence spectrometer
- Separation of ores with unwanted inclusions / impurities
- Sorting of minerals according to the desired degree of purity
- Sorting of manganese ore in different quality classes on the basis of the manganese content and other existing elements (e.g.: Fe)
- Sorting according to ratio between different elements (e.g.: Mn/Fe)
- Etc.

ADVANTAGES of XRF:

- Even if the material is heavily contaminated, high quality separation is guaranteed
- Elemental analysis (qualitative and semi-quantitative analysis) of input material
- Accurate detection of elements in ore, therefore a targeted enrichment is possible