

Mining & Minerals Processing



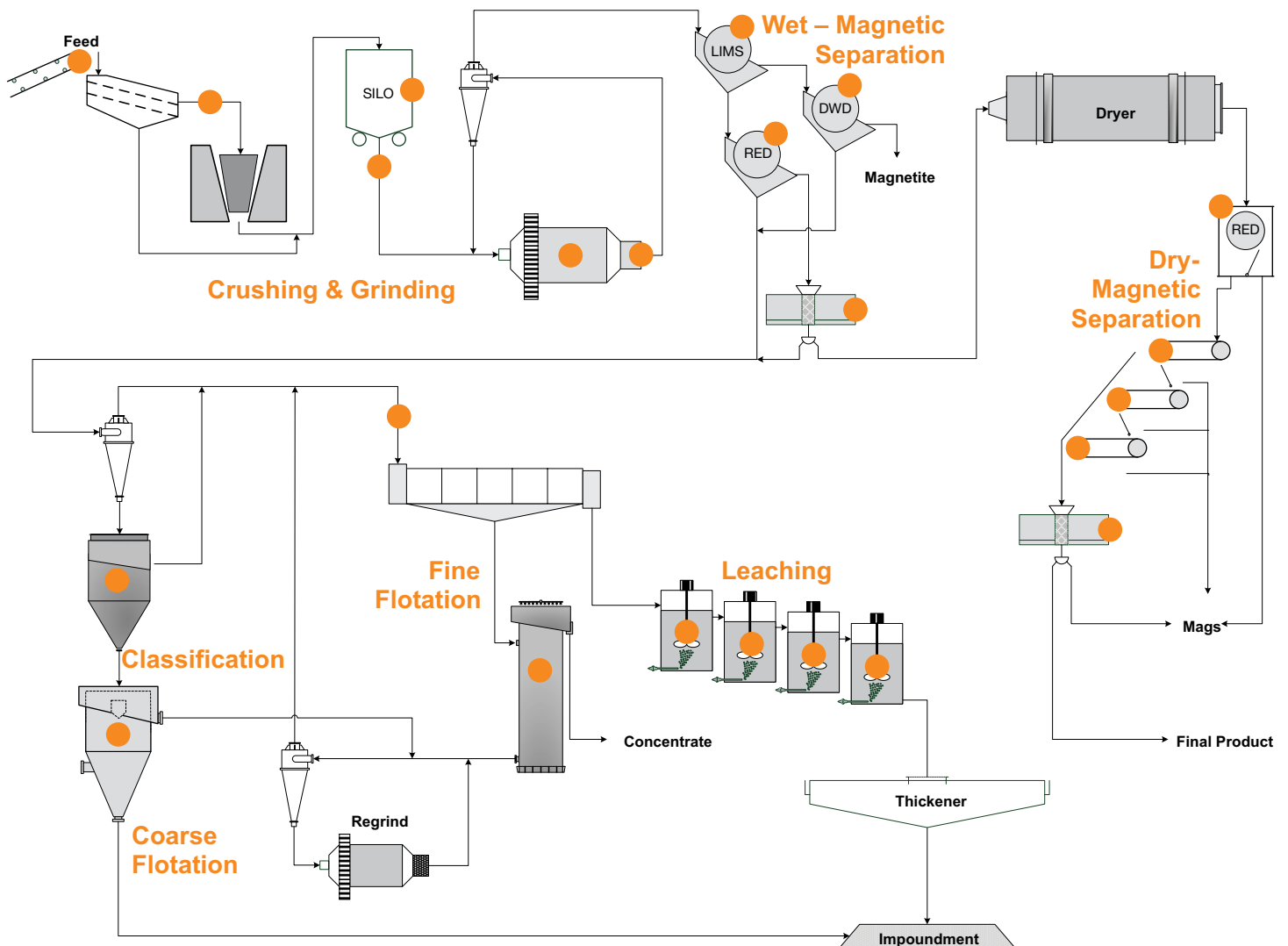
ERIEZ
FLOTATION DIVISION

Equipment for the Mining Industry

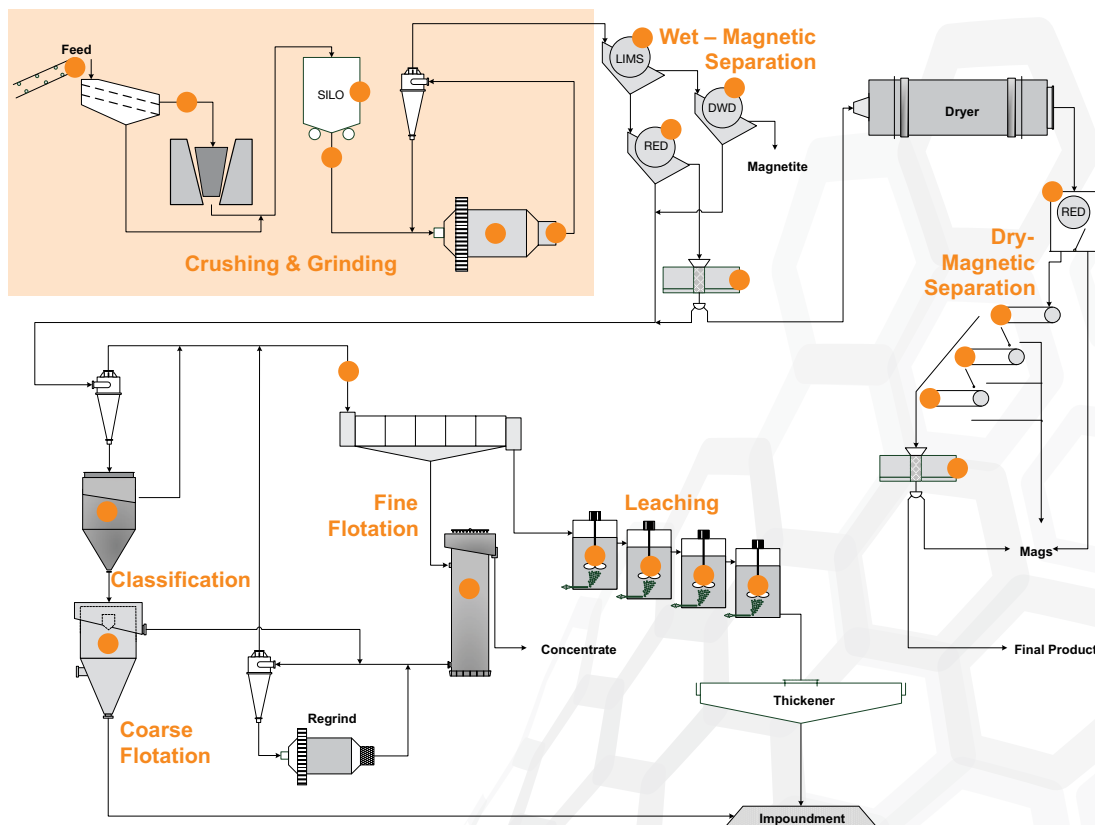


Eriez is the world authority in separation technology used throughout mineral processing operations.

The magnetics division features low, medium and high intensity magnetic separators to concentrate magnetic ores or remove metallic contaminants and industrial minerals. The Eriez Flotation Division designs and manufactures specialty flotation equipment, with more than 1,000 flotation column systems installed worldwide for cleaning, roughing and scavenging applications in base metals, gold, industrial minerals, coal and oil sands, phosphate and potash.



Crushing & Grinding



Eriez is the world leader in providing equipment to detect and remove dangerous unwanted metals from materials being conveyed. These tramp metals can cause serious damage to expensive downstream processing equipment if left unchecked. Systems to catch both nonferrous and ferrous metals are available.

- Magnetic Pulleys
- Metal Detectors
- Suspended Magnets
- Vibratory Feeders
- Magnetic Mill Liners
- Trunnion Magnets



Magnetic Pulleys

- Replace the head pulley on belt conveyors
- Compact solution for tight applications
- Continuous removal of ferrous material



Permanent Magnets

- Low cost of operation
- Up to 30" wide conveyor



Oil Cooled Electromagnets

- Remove dangerous ferrous tramp iron and protects downstream equipment
- Provide deep reach into heavy burdened, fast moving belts
- Self-cleaning models available



Large Diameter Core Magnets

- Very large suspended magnets
- Designed for wide, high-capacity conveyors
- Used in ports for coal exports



Super Conducting Magnets

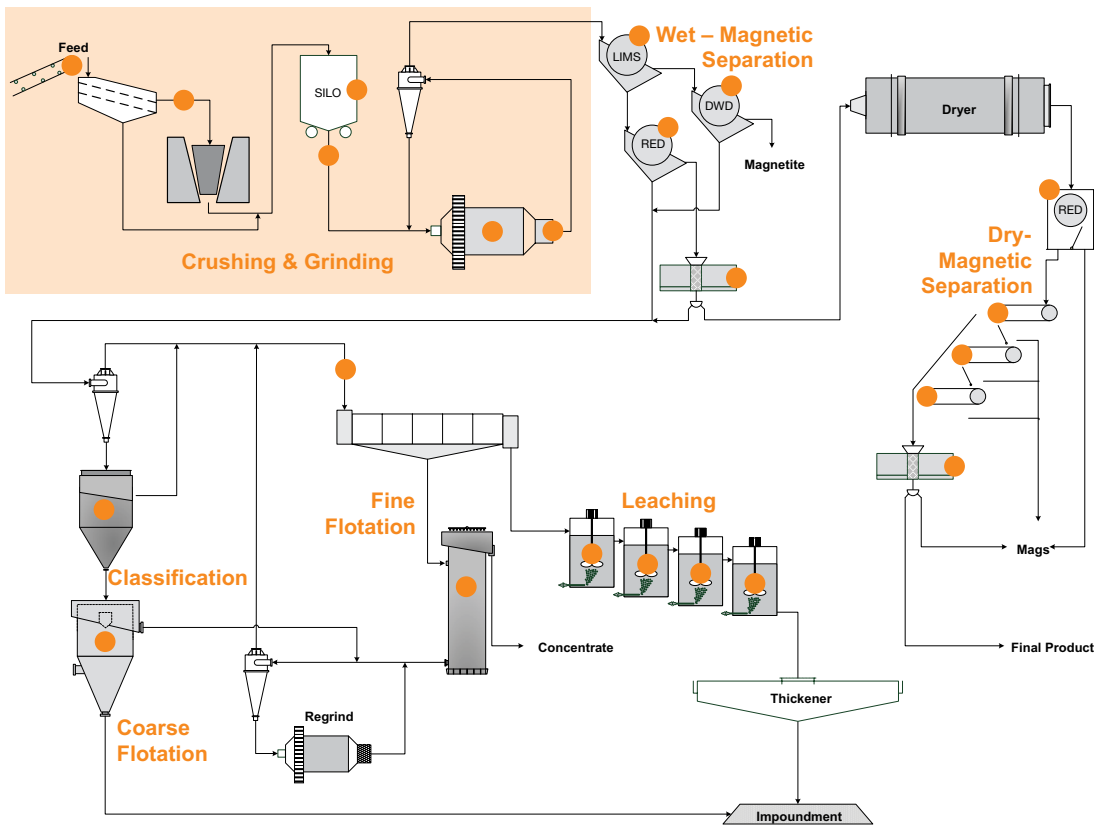
- Remove micron-size weakly magnetic impurities
- High productivity 8", 84", 120" dia. filter canisters



Force Cooled Electromagnets

- Compact, high-power magnetic circuits
- Heat exchangers and cryogenic models

Crushing & Grinding



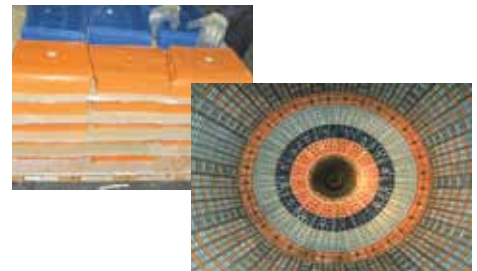
Metal Detector - 1200 Series

- Nonferrous and ferrous detection of medium size to larger particles
- Conveyors speeds up to 1200 fpm



Heavy-Duty Vibratory Feeders

- Feeders with capacities up to 2,300 tph
- Transfers abrasives, slag, coal, ore and grain
- Long trouble-free performance



Magnetic Mill Liners

- Wear-resistant, steel-encased magnetic "bricks" for primary, secondary and regrind ball mills
- Magnetic liner retains ball chips and fragments creating an "self-layering" steel protective liner
- Outlasts rubber and metallic liners



Metal Detector - Metalarm

- Detects unwanted nonferrous and ferrous in product flows
- Protects downstream equipment from damaging tramp iron



Electromagnetic Vibratory Feeders

- Under hopper configuration with superior control
- Capacities to 850 tph
- No moving parts in electromagnetic design - no maintenance

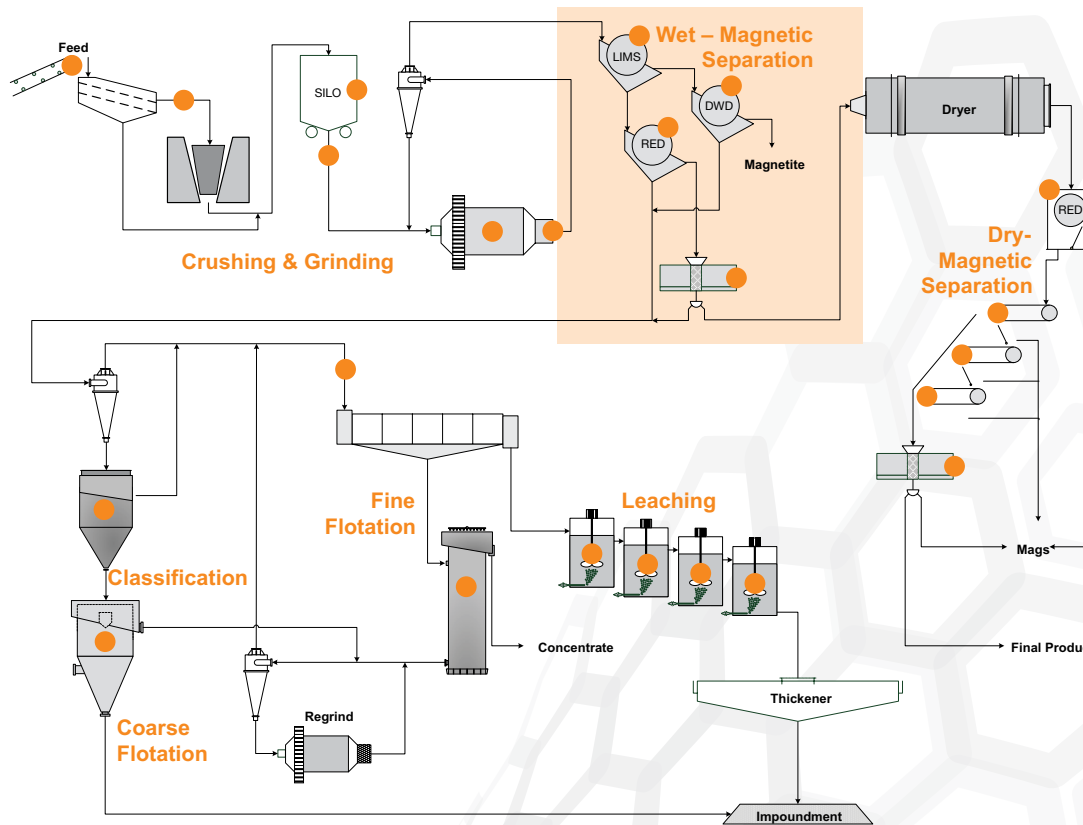


Trunnion Magnets

- Remove steel ball fragments at the exit of ball/SAG mill operations
- Protects downstream screens and cyclones
- Increase mill capacity while decreasing power consumption

Magnetic Separation

WET



Whether it's processing high volumes of iron ore, or removing micron-sized ferrous or paramagnetic contaminants from valuable minerals, Eriez offers a complete range of continuous and batch magnetic solutions for wet processing. In hard rock mining, specialized magnetic equipment improves ball mill efficiencies by removing worn steel media fragments or using them as a protective liner.

- LIMS Wet Drums
- RE Wet Drums
- Dewatering Drums
- HI Filters
- WHIMS



Wet Drum (WLIMS)

- Continuous recovery of magnetite or ferrosilicon in heavy-media operations
- Concentration of ferrous and magnetic ores
- Wide range of capacities for cobbing, roughing and cleaning applications
- Multiple tank styles for higher process efficiency
- High gradient and interpolate elements



Wet Drum (MIMS)

- Concentration of weakly magnetic ores
- In excess of 7000 surface gauss
- Multiple tank styles for optimum separation



Wet High Intensity Magnetic Separator (WHIMS)

- Maximum recovery on weakly magnetic materials
- Removes impurities from non-magnetic minerals including hermitic iron ore, metallic ores, rare ores and more
- Patented dual jiggling washing for higher separation efficiency
- Up to 0.3 Tesla background magnetic field



Magnetic Flocculators

- Speeds settling of fine magnetic particles in ore slurries and heavy media slurries
- 17 sizes with 600, 860 or 1000 gauss

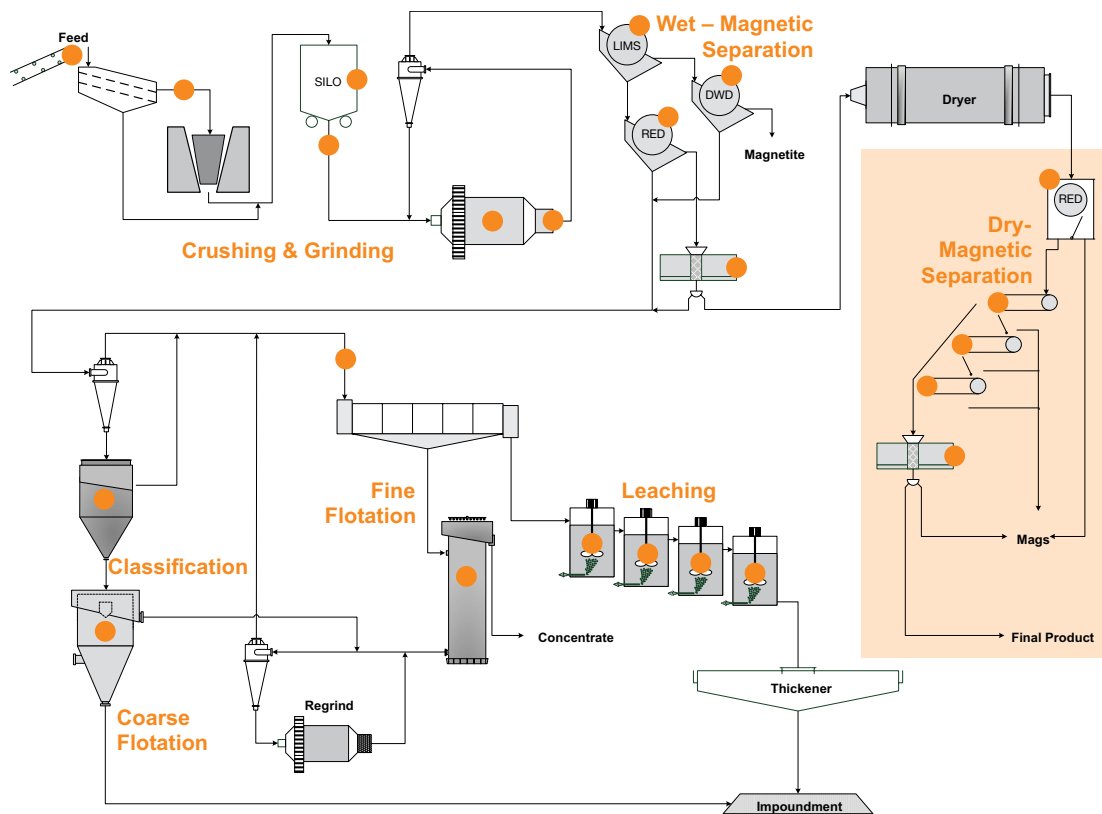


Demagnetizing Coils

- Effectively eliminates residual magnetism of magnetite and other ferro magnetic materials
- High frequency available for finer magnetite

Magnetic Separation

DRY



Similar to the equipment used in wet processes, Eriez uses drum, roll, pulley and filter type magnetic separators in varying degrees of intensity to process dry minerals. These processes require conveyors, feeders and belts to present the material to the magnetic separators in underbelt, overbelt or gravity-fed applications.

- LIMS Drums
- RE Drums
- RE Rolls
- Dry Vibrating Magnetic Filter



Magnetic Drums (LIMS)

- Three multi-pole magnetic elements for course and fine mineral processing
- Available for cobbing, roughing and cleaning application
- 36 and 48 inch diameters and 6 to 120 inch widths
- Available with Rare Earth Elements and composite shells



Electrostatic Separator (Non-magnetic)

- Uses differences in surface conductivity of the materials to separate
- Effective for copper wire, scrap and numerous minerals



Magnetic Drums (MIMS)

- Magnetic lines of flux concentrated in each internal pole create an extremely high-gradient magnetic field
- SPRE drums remove fine ferrous locked in strongly paramagnetic particles from minerals



Dry Cobbing Pulleys

- Permanent magnets in a head pulley
- Separates ferrous from material on a belt conveyor
- Permanent and electro magnetic pulleys
- Radial and axial magnetic fields
- High capacity cobbing of iron ore
- Compact conveyor design to minimize plant space



Magnetic Rolls

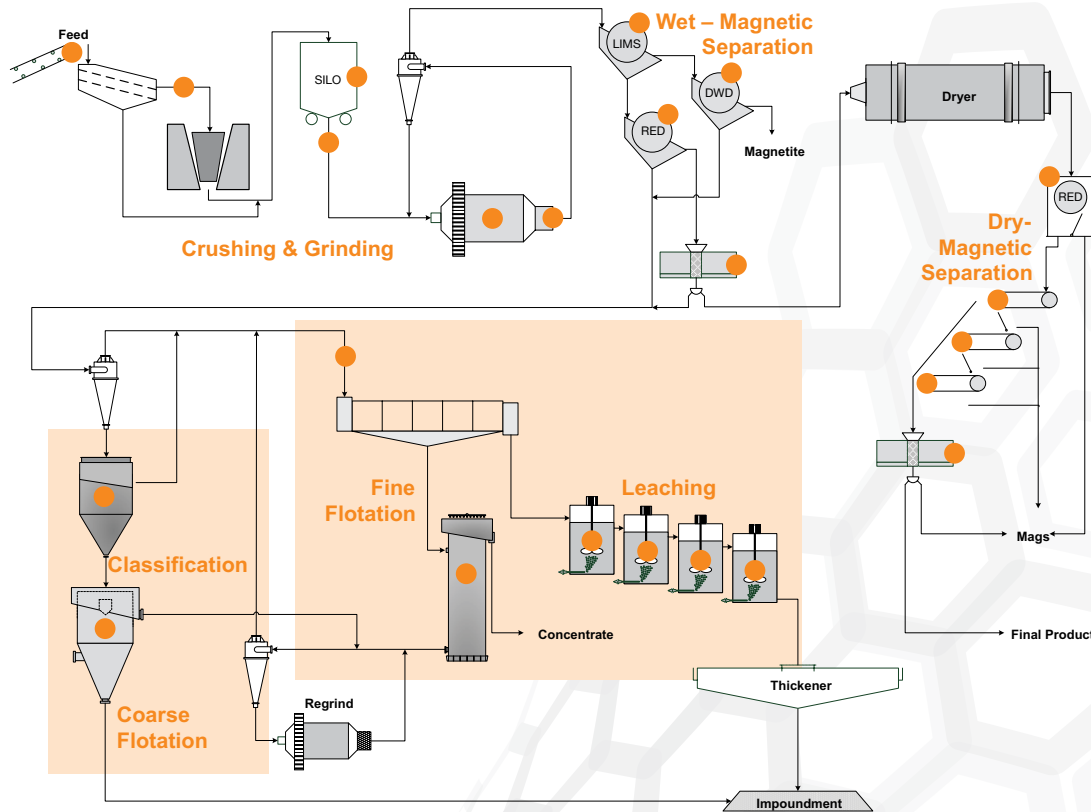
- Minerals flow on thin belts over a series of powerful rare earth magnetic rolls to purify non magnetic minerals
- Concentrate weakly magnetic ores such as garnet, ilmenite and wolframite
- Dust tight units with roll feeders
- Field intensity up to 24,000 gauss



Dry Vibrating Magnetic Filter (DVMF)

- High intensity, high gradient electromagnetic filters remove fine ferrous contaminants from dry granules and powders.
- Matrix enhanced magnetic fields to 10,000 gauss
- Ideal for high purity applications such as lithium carbonate, other forms of lithium powder, chemicals, etc

Flotation & Classification



Eriez Flotation systems offer maximum separation efficiency in many applications including roughing, scavenging, and cleaning in both metalliferous and non-metal applications. In addition to flotation equipment, the Eriez Flotation Division (EFD) offers many other products including hydraulic separators, distributors and an array of laboratory and pilot-scale equipment.

- Column Flotation
- Feed Pre-Aeration
- HydroFloat Separators
- CrossFlow Separators
- Spargers for Leaching



CrossFlow Separator

- High throughput classification of various ores using an innovative feed system
- Density concentration of minerals based on hindered-bed separation



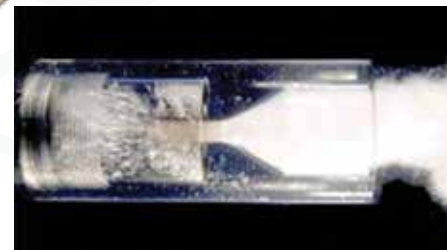
Column Flotation Cells

- Effective recovery of fine particles in application-specific, custom-designed cells
- A choice of aeration methods including the patented SlamJet and Cavitation Tube sparging system



SlamJet® Spargers

- Proven in thousands of applications
- Removable, single, large-bore orifice eliminates plugging and fouling



CavTube™

- Uses hydrodynamic cavitation to produce micro- and pico-sized bubbles to improve the recovery of ultra-fine particles



HydroFloat™ Separator

- Increases the recovery of coarse material typically lost in traditional flotation processes
- Uses a combination of hindered-bed separation with flotation to recover particles up to and exceeding 3mm



StackCell®

- Novel approach to flotation which combines the size of conventional cells with the selectivity of columns
- Small size gives economic solution for overloaded flotation circuits



RSP Distributors

- Rotating Slurry-Powered Distributor
- Can efficiently divide any stream that must be evenly distributed to multiple downstream processes
- Low maintenance, motor-less design



Lab Equipment & Services

- Laboratory and Pilot-scale Equipment
- Laboratory and On-Site based testing
- Pilot plant capabilities
- On-Site technical support and consulting services



WORLD AUTHORITY IN SEPARATION TECHNOLOGIES



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Note: Some safety warning labels or guarding may have been removed before photographing this equipment.

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