

BYMS

B A S[®] high field intensity wet electromagnetic separators perfectly enrich paramagnetic and ferromagnetic ores with low susceptibility.

What makes it perfect;

- ↑ Adjustable magnetic field intensity **(0.5 Tesla – 2.0 Tesla)**
- ↑ Adjustable matrix according to grain size
- ↑ Possibility to acquire intermediate products
- ↑ Continuous mixing (jigging) function for high-efficiency homogenization
- ↑ High capacity **(0.1 tons/h – 150 tons/h) - solid**
- ↑ Capacity determination and real-time monitoring of consumption
- ↑ PLC control including ore pre-preparation phase

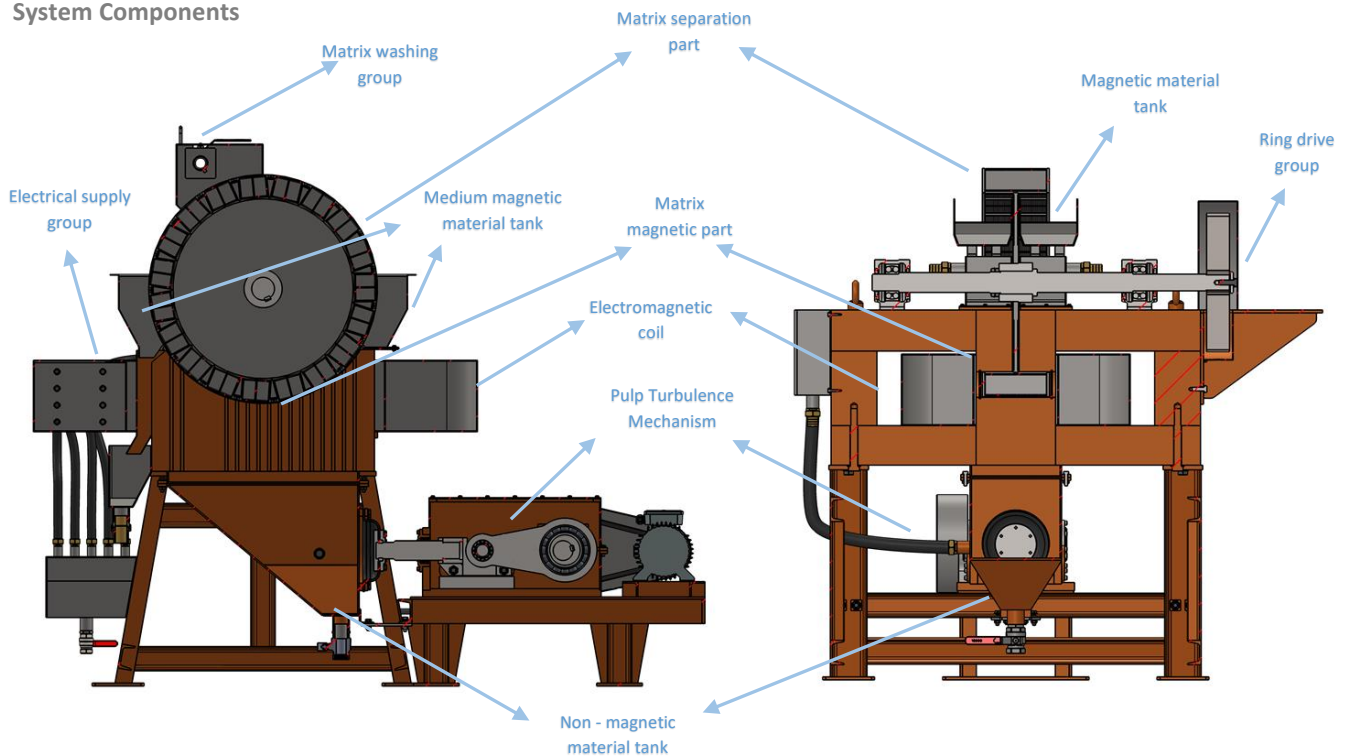
B A S[®] HIGH INTENSITY WET ELECTROMAGNETIC SEPARATOR

- ↑ Provides high tenor ore beneficiation for minerals such as **Iron oxide hematite, limonite, siderite, ilmenite** even under -100 microns size.
- ↑ **Manganese, chromite and wolframite** group minerals are preferred for micronized high tenor enrichment.
- ↑ **Quartz, Feldspar and Silica** are used for separation of impurities. Preferred in order to acquire lighter and brighter material while isolating ferrous and paramagnetic metals.

Contact B A S[®] team for the optimal solution of the application.

- ↑ Performance in the applied site is guaranteed to result the same as in trial runs in **BAS[®] Laboratories** considering the same processing conditions.
- ↑ **BAS[®] Scope covers** pre-process of the solution, delivery and field application to the facilities.

System Components



Principle

Prepared Pulp ore is fed to the magnetic separation pool within the separator through channels. The ring, which works in a vertical direction, captures the magnetically susceptible materials found in the magnetic pool and carries materials through the direction of the matrix. Magnetic materials captured on the matrix are carried towards the washing part where the magnetic field is nulled. Material is then collected, cleaned and removed from the system with high pressure water. Magnetic materials and non-magnetic materials with lower susceptibility cannot be isolated from the pool and are repeatedly exposed to the matrix magnetic field with a turbulence function, and in the final stage it is sent to separate collectors by either from non-magnetic or mid-magnetic chutes as the process is completed.

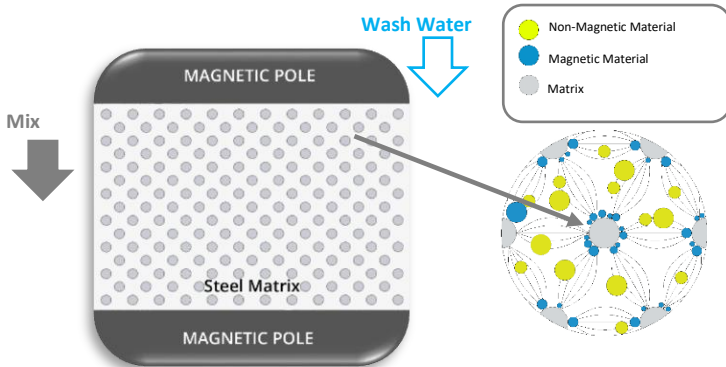
Properties

- Iron oxide group, chromite and other paramagnetic ores are possible to be enriched at ease with high tenor and under a fully controlled process.
- The possibility of isolation of gang minerals & impurities in non-magnetic ores (feldspat, quartz, silica sand, etc.) in high capacities.
- Blend level control
- Built-in compact cooling group (closed cycle cooler fan + pump)
- Minimal water use
- Higher efficiency with lower energy(kW) consumption
- The ability to monitor and control the entire system

Efficient Magnetic Field

B A S[®] BYMS High Magnetic Field Intensity Wet Separators sustain a magnetic field intensity up to 2.0 Tesla on the matrix. With system-sensitive flowmeter, instant Gauss measurement software integrated on the control board of the system, you can accurately designate the right parameters for enrichment for your material. It is also possible to include the ore preparation section on the PLC in the BYMS open protocol system.

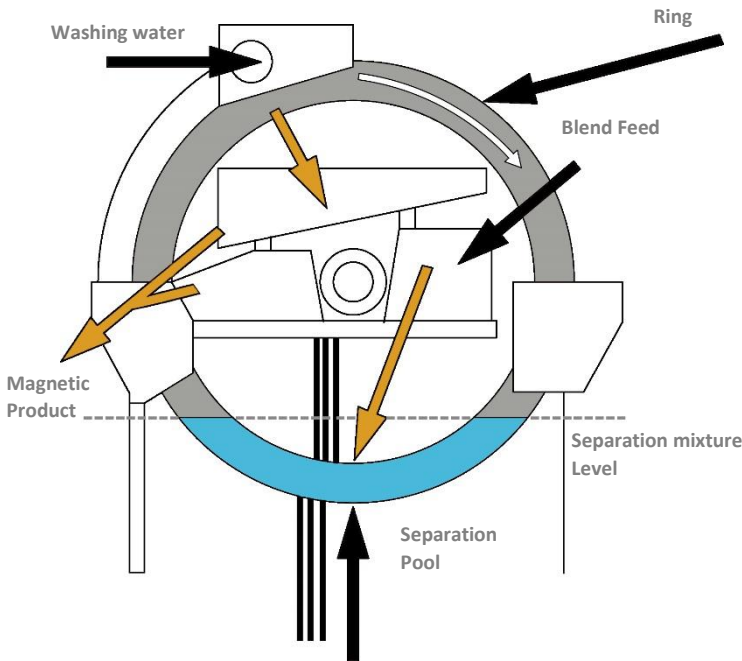
Separation



The optimized matrix structure works perfectly to grasp and capture metals with magnetic sensitivity in the constantly churning pool. Ferromagnetic and paramagnetic metals which are captured to the matrix are transported to the neutral area and taken from the inside with high pressure washing water. The vertical-running wheel system captures metals in the ever-turning cycle as the process continues.

You can observe the behavior of metals captured on the matrix mesh structure in the principle scheme on the left.

Vertical Ring Principle



Ring moves towards the opposite and perpendicular direction of the feed pool. Magnetic and paramagnetic materials on and between the smooth matrix in the blend pool and depending on the magnetic susceptibility, leaves some material in the pool.

The materials that cling to the matrix are obtained from the washing water section due to the reverse moving ring, where they are taken through the matrix with high pressure wash water. With the magnetic collector and outlet, material is severed from the system.

The separation mixture pool level is controlled by the automation panel and control valves. The optimum level is always controlled.

Separator matrix types differ according to;

- Matrix geometric structure,
- Wire diameter
- Mesh gap size

Also, the material grain size, magnetic susceptibility and density.

Data Engineering

MODEL FEATURES	BYMS 750	BYMS1000	BYMS1500	BYMS 2000	BYMS 2500
RING DIAMETER (MM)	750	1000	1500	2000	2500
DRY MATERIAL FEED CAPACITY(T/H)	2 - 4	4 - 6	15 - 25	45 - 65	70 - 100
MIXED MATERIAL FEED CAPACITY(M3/H)	5 - 10	10 - 20	50 - 90	100 - 180	200 - 350
CONCENTRATION %	10 - 40	10 - 40	10 - 40	10 - 40	10 - 40
EFFECTIVE MAGNET FIELD INSTENSITY (T)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
MAGNETIC POWER OUTLET (KW)	45	55	100	120	160
ENGINE POWER (KW)	3	4	7	13	22
WASH WATER FLOW RATE (M3/H)	5 - 8	10 - 20	60 - 90	100 - 150	200 - 300
MACHINE WEIGHT (TON)	5	7	22	53	110
MACHINE SIZE (LENGTHX WIDTH X HEIGHT)	225018001750	280020002500	370030003300	430037504400	590052005600

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