

eForce high tension electrostatic roll separator



Product Features

- Superior engineering design and mechanical construction to minimize operation and maintenance costs.
- An enhancement of the design and arrangement of the static electrode providing a greater attraction force for separating fine conductive particles.



Principle of Operation

Electrostatic separation is based on differences in conductivity. There are three basic particle charging mechanisms used for the electrical separation of minerals; induction, triboelectrification and ion bombardment. Once the particles are selectively charged with different polarities, they can be separated by applying an external electric field.

The *eForce*

The *eForce* high-tension electrostatic separator utilizes the difference in surface conductivity, surface charge and shape factors of particles to achieve separation. In general, this technique is used for conductor and non-conductor separation. Applicable particle size range for this separation is typically from 0.075 to 12.5 mm.

All in One

With the experience of over 50 years in electrostatic technology, and three years of extensive pilot-scale evaluation in mineral separation plants, Outokumpu Technology has created an improved electrostatic separator. Both a combination and an advancement of prior forms of electrostatic separation, *eForce* products both enhance grades and recoveries of minerals.

This advancement gives customers better conductor/non-conductor separation than with technology previously available. Results to date show significantly increased separation efficiency over prior art high-tension roll electrostatic separators. The *eForce* allows for simplification of MSP circuits by minimizing re-circulation loads.

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Applications

Minerals Industry

Conductive Recovery: Non-conductive Recovery:

Ilmenite	Zircon
Rutile	Monazite
Leucoxene	Quartz
Hematite	Feldspar
Cassiterite	Topaz
Chromite	Scheelite
Columbite	Barite
Gold	Staurolite
Tungsten	Kyanite
Wolfamite	Sillimanite
Pyrite	Garnet

Recycling Industry

Chopped Wire/Plastic
Electronic Scrap
Plastic Bottle Recycling
Metal/Non Metal
Computer Cable

Technology so advanced it can improve upon the machines already being utilized in your plant.

Based on the success of the *eForce* design, Outokumpu Technology has enabled improvement on existing high-tension separators by providing an electrode retrofit kit. Side by side comparisons have shown immediate benefits of the new *eForce* electrode. Separation efficiencies are often increased by 10-15% over prior art electrodes and are applicable to a multitude of older HTR makes and models.

The electrode kit has already been retrofitted into rougher, scavenger and cleaner applications in minerals processing plants throughout the world. In addition to the many obvious performance gains, the Outokumpu Technology electrodes offer a unique operating and maintenance advantage over other retrofit electrodes: robustness. The *eForce* electrode array is constructed of special materials that make breakage and cracking virtually impossible.

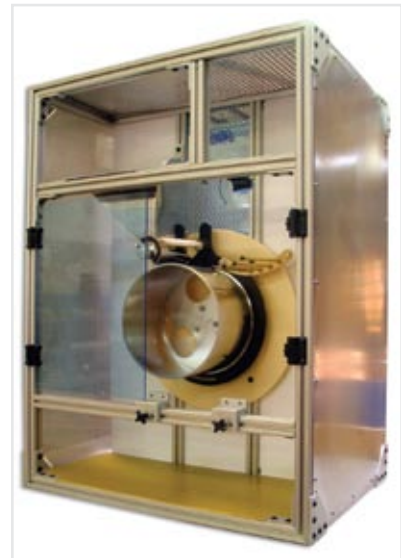
Enabling Your Innovation

Based on proven *eForce* electrostatic separation technology, Outokumpu Technology has also designed a laboratory separator to meet the needs of modern research and development. Accessibility and durability mixed with high efficiency make the new *eForce* a welcome addition to any testing facility.

The counter top unit can also be equipped with a stand for running larger, continuously fed samples where constantly changing small sample pans would be a burden.



eForce Electrode Retrofit



New *eForce* Laboratory Unit

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