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Laboratory Electrostatic Separator Model EHTP (25, 36) 111-15

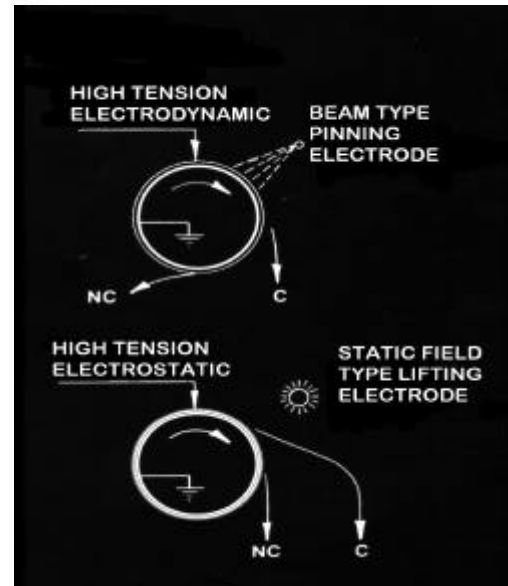
The Electrostatic Separator is an improved self-contained laboratory/pilot plant model, specifically designed for research in high voltage separation. Separation of dry granular materials is based on differences in surface conductivity (electrodynamic or 'high tension' mode) or by preferential charging and attraction of materials to an electric field of opposite charge potential (static mode). The dynamic mode involves a measurable flow of ionic current (ion bombardment) whereby all particles receive a positive or negative charge, and separation occurs by leakage of this assumed charge by the conductive materials compared to a retention of charge by the non-conductors. Static mode separations employ a non-discharging plate electrode to attract selectively charged particles of the opposite polarity or neutral particles which exhibit dielectric, shape or differences. Combined dynamic and static separating modes can be used to maximize product purity and recovery in many applications. This model has included a plate separator, to compare results obtained from roll separation versus plate separation.



Particle treatment size typically ranges from 1 mm (16 mesh) through 0.074 mm (200 mesh) for granular materials; but coarser sizes can often be treated where wide polarizable differences in conductivity, shape or density exist. Capacity of this model is approximately 150 kg/hour (330 lbs./hour) based on a material having a bulk density of 1600 kg/m³ (100 lbs./ft³).

Examples of separation, Dynamic Mode

1. Beach Sand Separations-Ilmenite, rutile, zircon, monazite & others
2. Silica & carbonate removal from iron ore
3. Iron ore superconcentrate production
4. Pre-concentration of placer gold
5. Cassiterite recovery
6. Removal of sulfides from scheelite
7. Wire and plastic separation
8. Glass cleaning (metallics & stone removal)
9. Dress reclaim
10. Total metallic from non-metallic materials (ceramics, plastics, etc.)
11. Non-ferrous metal recovery



Examples of separation, Static Mode

1. Silica from phosphate
2. Final rutile cleaning
3. Final rircon cleaning
4. Quartz from limestone

General Specifications

This is a totally enclosed self-contained separator incorporating A.C. and D.C. power supplies and controls. Controls, voltmeters, current readout and dust protected push-button switches are panel mounted at operator level in direct view of the separation zone.

Two stainless steel interchangeable separation rolls and a plate separator attachment are furnished as a standard feature. These include 6 inch (12.7 mm) wide by 10 and 14 inch (245 and 356 mm) diameter rolls. The unit also includes a electrostatic plate separator attachment to interchange with rolls.

D.C, high voltage is furnished from a totally enclosed **oil-less solid state power supply** continuously variable from 0-40,000 VDC.

A.C. high voltage for charge neutralization is supplied from a transformer with the output continuously variable from 0-12,000 VAC.

Both A.C. and D.C. power supplies feature totally enclosed high voltage connections plus dual current limiting protection and automatic shutdown in over-current situations. Other shield/door safety interlocks are also supplied.

Adjustable and interchangeable discharge (beam) and plate electrodes are furnished for dynamic and static separation modes. A separate adjustable A.C. discharge electrode is also provided for charge decay.

An all-stainless steel adjustable gravity flow feed hopper with a 260 cc (132 in³) capacity is a standard feature. An optional stainless steel vibratory feeder is also available.

A three-way product collection hopper is provided fitted with adjustable stainless steel splitter blades and 50 mm (2 inch) diameter product outlets.

An adjustable tension grounded roll brush for particle removal and an infra-red roll heating provision round out the features of this separator.

A base cabinet is required for assembly, and electrical connections.

Power requirements (please specify): 115 or 240 VAC 15 Amps Single Phase 50/60 Hz	Shipping Specifications Number Cases: 2 Net Weight: 595 Kg (1,310 Lbs) Gross Weight: 706 Kg (1,553 Lbs) Shipping Cube: 3.19 M ³ (112 Ft ³)
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Dimensions: (*)

L = 1,117 mm (44") W = 660 mm (26") H = 2,137 mm (84")

(*) - Dimensions for separator only, Optional Base Cabinet is not included.

CATALOG NUMBER	DESCRIPTION
060K-001	Electrostatic Separator for 110 V/1 Ph/60 Hz
060K-002	Electrostatic Separator for 220 V/1 Ph/50 Hz