



# Electrostatic High Tension Roll Separator (400dia.)



## Overview

The Mineral Technologies Carrara HTR 400 offers the most advanced electrostatic separator on the market. The 400mm diameter roll along with the electrode design delivers separation efficiencies not previously seen. This affords the best opportunity for maximising throughput, grade and recovery in plant operations. With some feedstock's a two stage Carrara HTR 400 offers superior performance to 3 stage machines currently on the market.

## PRODUCTION 2000mm x 400mm Dia.

### Features

- 2000mm long separation rolls to maximise throughput capability.
- 400mm diameter separation rolls afford lower centrifugal forces and extended time in the separation zone giving more opportunity for discrete separation.
- Separation rollers are dynamically balanced and fitted with individual geared motors (1.5kW drives mounted externally) each horizontal pair of rolls are independently speed-controlled
- Independently adjustable corona and lightweight secondary electrode providing improved separation of coarse non-conductors and fine conductors.
- Robust electrode design provides long service life and allows flexible setup to suit any applications
- Dual brass separation roll brushing on each separation stage
- Adjustable splitter design which accommodates middling, non-conductor or conductor retreat without chute changes
- Positive and robust splitter locking mechanism with positioning scale for accurate setup of parallel separators
- Ability to set splitter for super non-conductor product stream (ultra clean non-conductors)
- Individual separation module inspection doors for operator convenience and reduction of heat loss during on-line inspection
- Operator protection guarding to IP20 behind inspection doors for enhanced operator safety
- Local control station incorporating E/Stop with an additional E/stop at the rear of the separator
- Discharge launder c/w conductor, mids & non-conductor outlets
- Fully enclosed separator for containment of dust, with provision for dust extraction system connection (by others)
- Labyrinth sealed bearings for extended life
- Fluted feedroll with geared motor (0.37kW) Variable frequency drive for precise feed control and automated operation
- or
- Electro / Pneumatic feed gate control systems in conjunction with calibrated feed slides for feed rate control

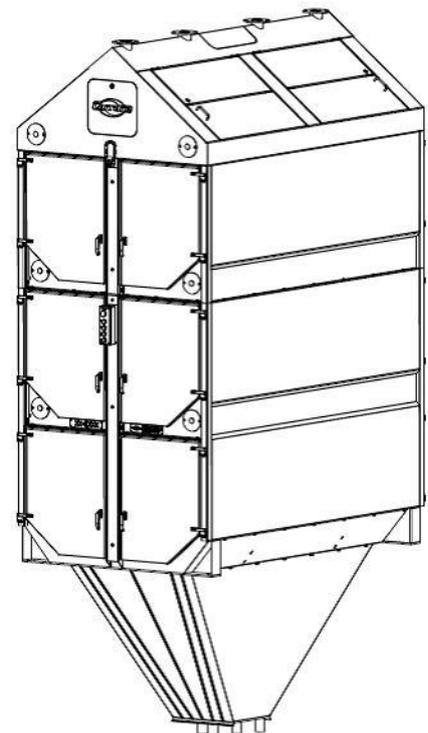


Image opposite depicts a production HTR 2x3x2000x400dia.

## **Control Panel**

- Incorporating 40kv 15mA Glassman HT Power Supply (positive or negative)
- Emergency Stop, Local Main Isolator, Fault Reset and Remote / Local Selector
- HT termination point for plant connection
- Integration with plant PLC systems available
- Power supply 240v 50hz

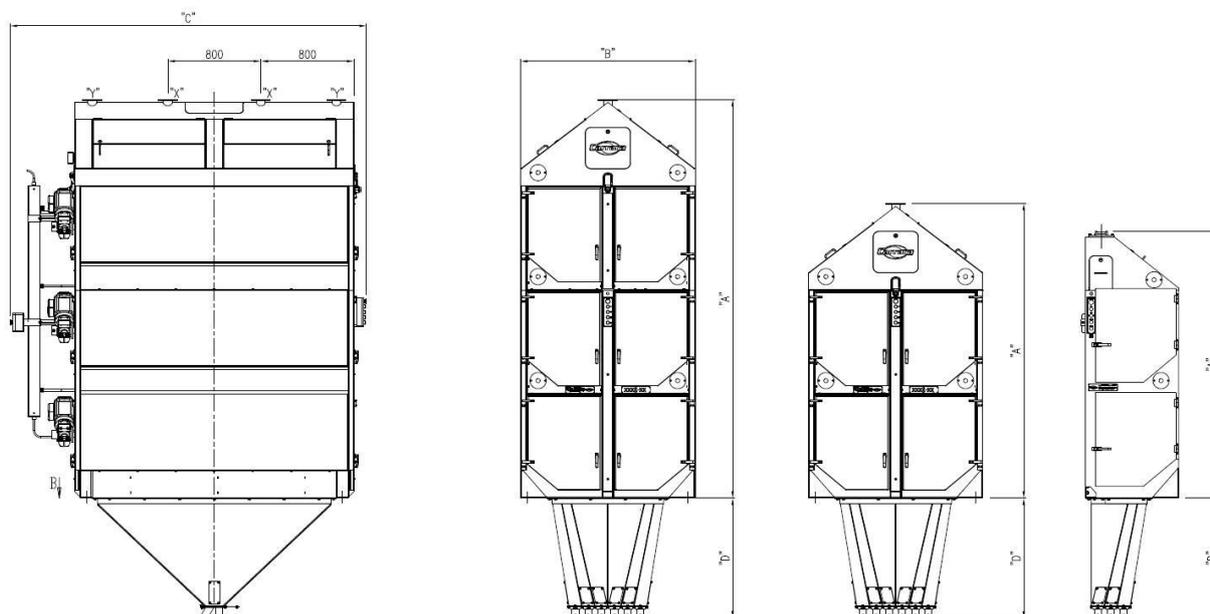
## **Options Available**

- Electrode – Glassless and Glass Composite (*for more information refer [MT-DS-020 Electrode datasheet](#)*)
- Discharge Launderers – Standard and Integrated Sampling

## **Applications**

Separation of dry granular materials with differing electrical conductivities, eg: mineral sands, hard rock ilmenite and rutile, cassiterite, tantalite, wolframite, iron ore.

## Design Data and Configuration Details



		2 x 3 (6 Roll)	2 x 2 (4 Roll)	1 x 3 (3 Roll)	1 x 2 (2 Roll)
<b>Equipment No.</b>		<b>HTR9030</b>	<b>HTR9031 Refer EE</b>	<b>HTR9032 Refer EE</b>	<b>HTR9033 Refer EE</b>
Separator Nett Weight (kg)		4000	2800	2450	1800
Typical (t/h) Subject to testwork		Upto 12	Upto 10	Upto 6	Upto 5
Material Content:		Dry, Free-Flowing			
Feed Temperature:		Up to 120°C			
Dimension	"A" Height (mm)	3450	2550	3450	2280
	"B" Width (mm)	1500	1500	910	910
	"C" Length (mm)	3050	3050	2950	3950
	"D" Height below floor (mm)	1050	1050	1050	1050
Outlet Connection		50NB Pipe (2 x Conductor, 2 x Mids, 2 x Non-Conductor) with product sampling		50NB Pipe (1 x Conductor, 1 x Mids, 1 x Non-Conductor) with product sampling	
Feed Connection "X"		2 x 65NB table D Flanges			
Dust Connection "Y"		1 x 65NB table D Flanges (Available for connection at either end of Separator)			
Control Panel Size		800mm x 1800mm x 400mm			
Control Panel Weight (kg)		125			
High Tension Power Supply		15mA	15mA	15mA	15mA
Power Consumption (kW)		10	7	5.5	4

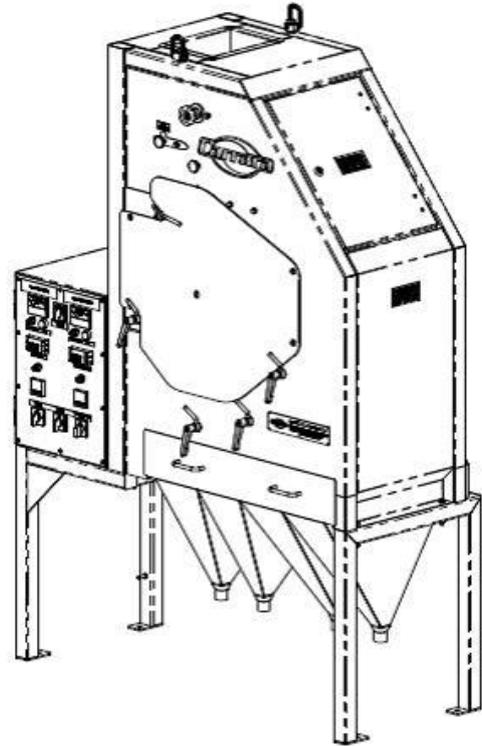
### Note:

Mineral Technologies reserves the right to alter specifications without prior notice.  
 For Certified Drawings suitable for Engineering Design purposes please refer to Mineral Technologies

## Laboratory 1 x 1 x 300mm x 400mm Dia. Separator

### Features

- 400mm diameter separation roll affording lower centrifugal forces and extended time in the separation zone giving more opportunity for discrete separation.
- 300mm long x 400mm dia. separation roll dynamically balanced and fitted with variable frequency geared-motor drive
- Heated separation roll with thermostatic control to simulate plant conditions and ensure separation at the correct temperature Labyrinth sealed veering system as per production machine
- Heat feed bin with thermostatic control to ensure mineral retains correct separation temperature
- Chromed separation roll supplied as standard to prevent corrosion of surface (a burnished steel roll is available as an option)
- Independent adjustment of corona electrode position
- Separately mounted high-performance secondary separation plate with independent adjustment controls in all planes for precise positioning and optimisation of separation
- Single brass non-conductor wiper brush easily removable for cleaning
- Three adjustable splitters giving 4 product streams to assist in assessing separation performance
- Ability to set splitter for a super non-conductor product stream (ultra clean non-conductors)
- Drain free product chute comprising 4 outlets: Conductors, two (2) Middlings, and Non-Conductors
- Feed roll with geared motor and variable frequency drive for precise feed rate setting. Feed rate is directly proportional to roll speed for rapid adjustment



### Integral HT Control Panel

- Incorporating 40kv 1.8mA Glassman power supply with kV adjustment [negative as standard, positive available at client's request]
- Local main isolator
- Heating controls for feed bin and separation roll
- Digital readouts for kV, mA, rpm and temperature
- HT Power supply 240v 50hz

### Design Data

Capacity:	Up to 450 kg/h	Separator Dimensions (mm):	1400 wide x 900 deep x 2000 high
Moisture Content:	Dry, Free-Flowing	Separator Weight:	420
Size Range:	40 to 800 microns	Power Consumption (kW)	0.8
Feed Temperature:	Up to 120°C		