

GENERAL DESCRIPTIONS

ELECTROSTATIC PRECIPITATOR

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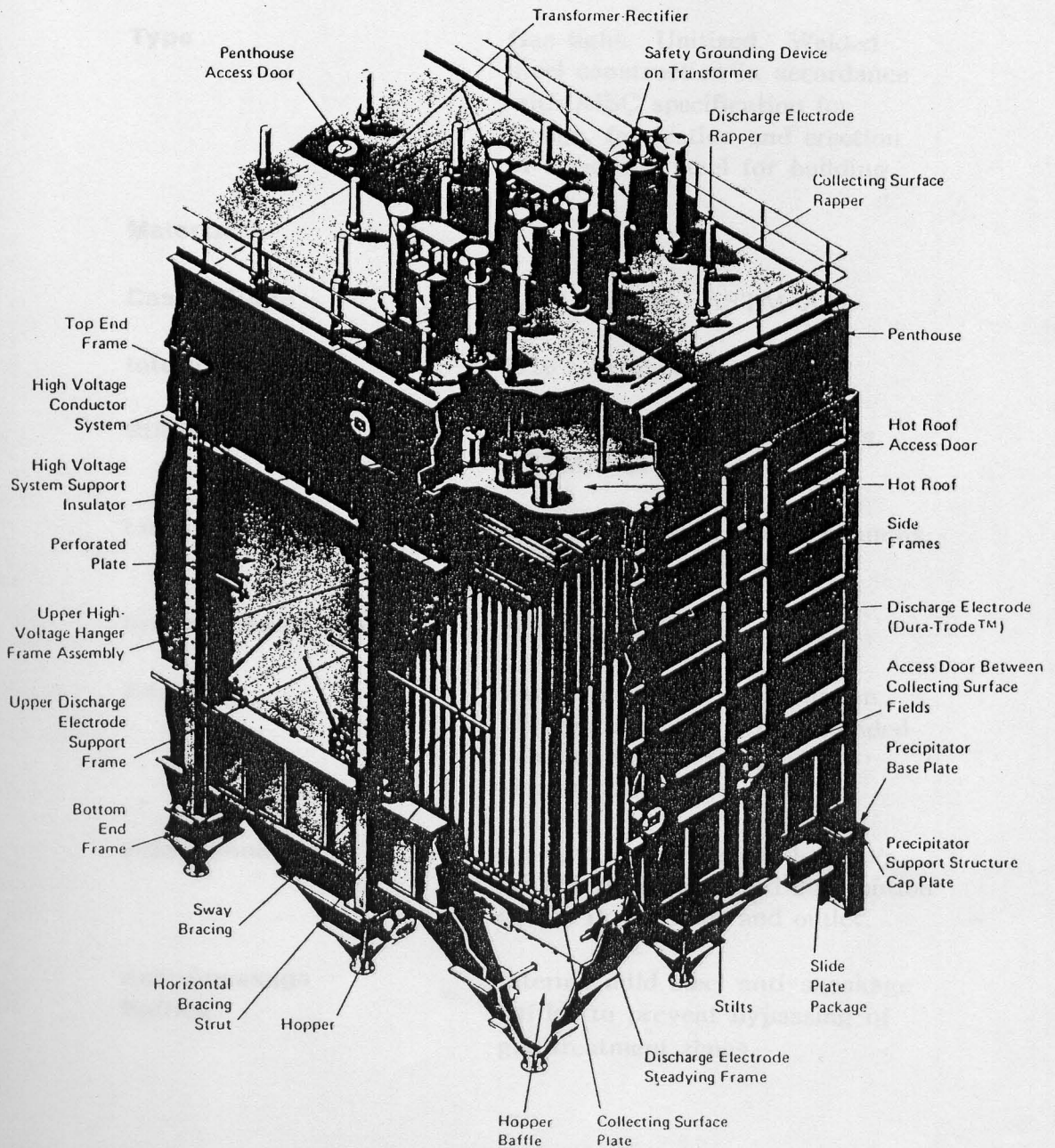
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EQUIPMENT

GENERAL DESCRIPTIONS

Electrostatic Precipitator

ELECTROSTATIC PRECIPITATOR
 CASING
 TYPE



EQUIPMENT DESCRIPTIONS

ELECTROSTATIC PRECIPITATOR

CASING

Type	Gas tight. Unitized. Welded steel construction in accordance with AISC specification for design, fabrication and erection of structural steel for building.
Material	
Casing Plate	3/16" (4.5mm) ASTM-A36
Internal Plate	3/16" (4.5mm) ASTM-A36
Stiffeners	Rolled steel structural shapes. ASTM-A36
Load Members	Structural beams, corner columns, sway bracing. ASTM-A36.
Frames, Anvil Beams	ASTM-A36.
Support	Fabricated girder construction all around bottom with extended columns (stilts) for tie-in to support steel.
Flue Connections	Flanged and drilled with 3.2mm ASTM-A36 perforated distribution device in the inlet and outlet.
Anti-Sneakage Baffles	Internal mild steel anti-sneakage baffles to prevent bypassing of gas treatment zones.

CASING (Continued)
Inspection & Access

24" (610mm Φ) round steel insulated doors with quick opening latches on sides and penthouse roof, key interlocked.

Valley Angle

Approx. 60° / 35°

Shop Paint

Interior surface of casing plate will not be shop painted.
Mild steel surfaces (except for collecting surfaces and discharge electrode) will be shop cleaned in accordance with SSPC-SP3 and given a coat of rust proof paint 60 μ m dry film thickness.

Baffles
Outlet
Inspection & Access

One (1) 24" round steel door with quick opening latches per house, key interlocked.

Vibrating Mounting

Provision is made to wall mount parameter's copper vibrator per house (option).

Level Indicators

One (1) per house for high level detection.
Contacts are provided which will be wired to a Korea Cottrell furnished alarm panel.
The alarm panel will have numbered indicating lights for the level points, and will be wired to activate a common alarm system.

Heaters

Heaters will not be applied, otherwise customer's request.

Poke Holes

Two (2) 2" dia. Poke holes/hopper, spaced 90° apart, with ball-on-caps (option).

HOPPERS

Type	Welded. Pyramidal.
Material	3/16" (4.5mm) ASTM-A36.
Valley Angle	Approx. 60° , 55°
Stiffeners	Rolled steel structural shapes. ASTM-A36.
Baffles	10G. (3.2mm) ASTM-A36 at the last field hoppers.
Outlet	12" (304mm Φ) dia. flange, ASTM-A36, shipped loose.
Inspection & Access	One(1) 24" round steel door with quick opening latches per hopper, key interlocked.
Vibrating Mounting	Provision is made to wall mount purchaser's hopper vibrator per hopper.(option)
Level Indicators	One(1) per hopper for high level detection. Contacts are provided which will be wired to a Korea Cottrell furnished sub-panel. The sub-panel will have numbered indicating lights for the Preci- pitator, and will be wired to activate a common alarm.(option)
Heaters	Heaters will not be applied otherwise customers request.
Poke Holes	Two(2) 2" dia. Poke holes/hopper, located 90° apart, with bolt-on caps.(option)

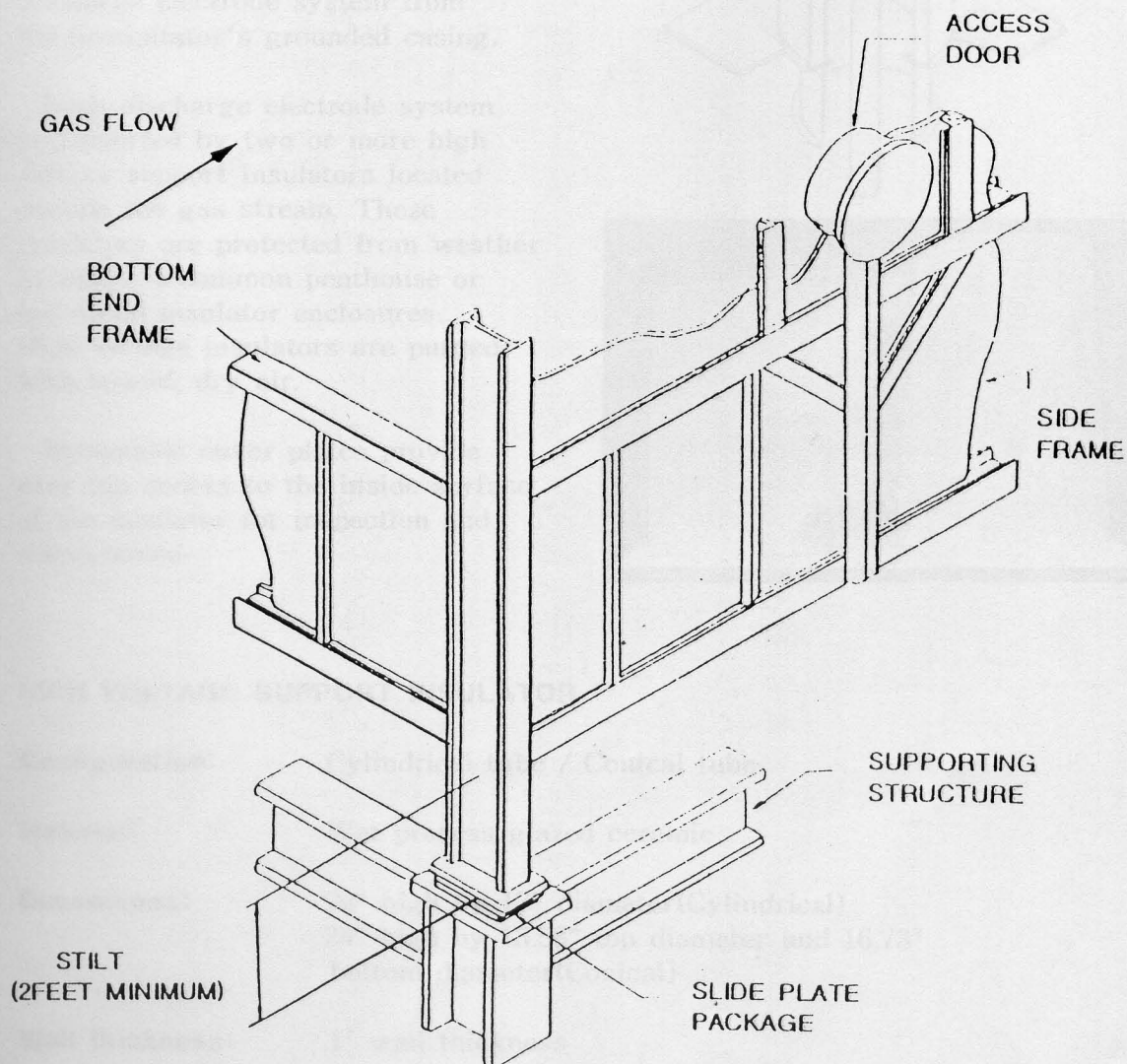
PENTHOUSE

Type	Weatherproof roof connector.
Material	3/16" (4.5mm) ASTM-A36 with structural steel stiffeners for side walls and roof.
Insulating Air Space	2,200mm (7'-2.6") high minimum.
Drain Slope	Approx. 1/40(5/16" per foot).
Hand Rail	Around full periphery.
Inspection & Access	610mm (24") dia. insulated steel doors with quick opening latches, key interlocked.
Expansion Joint	2.3mm (13Ga.) type ASTM-A240 or ASTM-A36 with fabric corners.
Support Insulator Seal Air System	One(1) support insulator seal air system per precipitator, including fan base, filter box, duct-work, heater and precipitator pressure switches. Starters and contactors are by purchaser.(Option)
Support Insulator Heater	Electric heaters rated at 1.5Kw per support insulator if requested. (option)
Shop Paint	Mild steel surfaces will be cleaned in accordance with SSPC-SP3 and painted with 60µm dry film thickness.

PRECIPITATOR SUPPORT DESIGN

Korea Cottrell utilizes short columns or stilts to transfer the precipitator loads into the support structure (see figure below).

The stilts provide several advantages. These advantages include minimizing thermal gradients and heat transfer into support steel, transferring only point loads into the support structure, providing an adequate location for slide plates and providing ample clearance at the hopper connection for insulation placement.



High Voltage Support Insulators(Bushing)

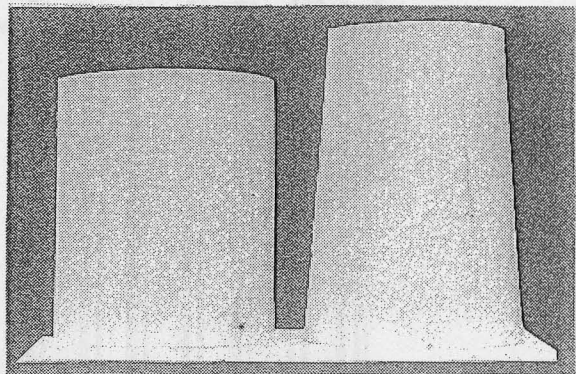
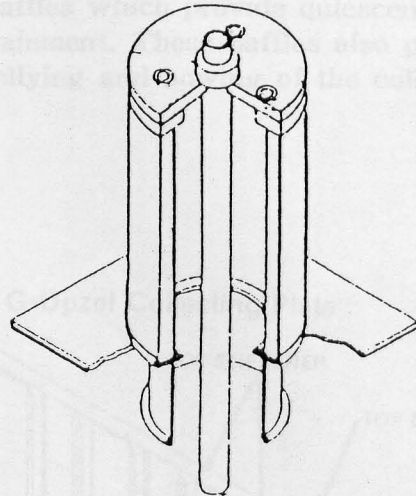
The high voltage support insulator performs two basic functions critical to precipitator electrical operation and performance.

1. Structural support of the discharge electrode system.
2. Electrical isolation of the discharge electrode system from the precipitator's grounded casing.

Each discharge electrode system is supported by two or more high voltage support insulators located outside the gas stream. These insulators are protected from weather by either a common penthouse or individual insulator enclosures.

High voltage insulators are purged with heated, dry air.

Removable cover plates provide easy top access to the inside surface of the insulator for inspection and maintenance.



HIGH VOLTAGE SUPPORT INSULATOR

Configuration:	Cylindrical tube / Conical tube
Material:	Wet process glazed ceramic
Dimensions:	20" high by 17" diameter(Cylindrical) 24" high by 13.58" top diameter and 16.73" bottom diameter(Conical)
Wall thickness:	1" wall thickness