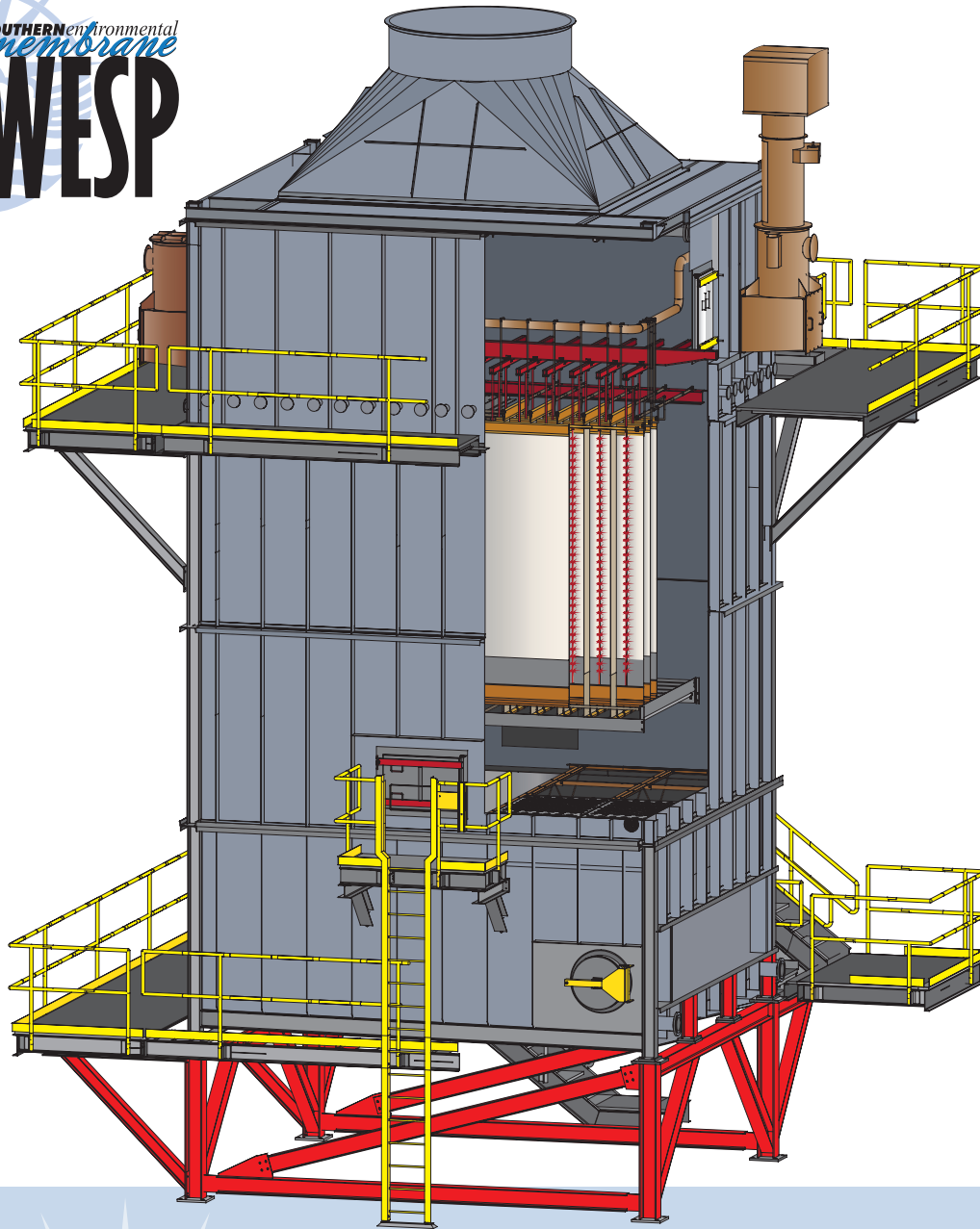


STATE-OF-THE-ART WET ELECTROSTATIC PRECIPITATOR



EXPERIENCE CLEAN AIR

SOUTHERN
environmental INC.



Membrane Wet ESP for Oil Fired Power Boiler

The **SEI Membrane Wet ESP** design is unique, where by collecting electrodes are made out of polypropylene fabric offering significant technical advantages in utility, industrial, and nonferrous metal applications.

Technical Advantages of SEI's Membrane Wet ESP Design

- Membranes are cleaned continuously – reducing frequency of flushing and WESP down time.
- Membrane wicking action eliminates channeling and dry spots, minimizes collection electrode build-up, and reduces annual maintenance costs and down time.
- Membrane wicking action prevents deposits of concentrated corrosive components such as acid mist, and eliminates premature failure of collecting electrodes.
- Membrane material is polypropylene, possessing excellent corrosion resistance.
- Can operate as a condensing WESP which reduces the steam plume density and fresh make-up water requirement.

CONDENSING WESP TECHNICAL BENEFITS

Creates condensation on the casing walls

- Cooling of the saturated gas provides “sweating” on the WESP casing wall preventing concentrated deposits of corrosive components such as sulfuric acid.

Reduces fresh make-up water requirements

- Cooling of the saturated gas extracts water out of the gas stream which can be used in place of make-up water.

Recovers latent heat from gas

- Cooling of the saturated gas extracts latent heat out of the gas stream into the irrigation water.

Reduces steam plume density

- Cooling of the saturated gas reduces the stack flue gas humidity providing aesthetic benefit.



Membrane Wet ESP for Fiberglass Insulation Oven Application

SEI IONASTAR DISCHARGE ELECTRODES

- SEI Ionastar Discharge Electrodes are a virtually unbreakable rigid mast electrode designed for optimum power input in SEI's Membrane WESP.
- Optimum Voltage-Current Characteristics
- No Bending or Distortion

MEMBRANE COLLECTING ELECTRODES



SEI's Membrane WESP utilizes a polypropylene fabric. Experience has shown that this patented technology offers the best advantages in Wet ESP equipment:

Minimizes excessive build up.

Eliminates discharge electrode fouling.

The fabric and water distribution design ensures constant cleaning so that the ESP offers thousands of hours of uninterrupted operation.

10 year membrane warranty.

TESTS HAVE CONFIRMED THAT MEMBRANE WET ESP ELIMINATES FOULING OF INTERNAL COMPONENTS

Build up results on a side-by-side test of metal plates and membranes after six months of operation. This Wet ESP test was conducted down-stream of a scrubber on a boiler firing Powder River Basin coal with high calcium ash.

This test proves that the build-up is minimized due to continuous irrigation of membranes. Elimination of electrode fouling saves money and increases production profitability.



DIRTY METAL PLATES
(INTERMITTENTLY CLEANED
DURING OPERATION)

CLEAN MEMBRANE
(CONTINUOUSLY CLEANED
DURING OPERATION)



MEMBRANE WESP FOR ACID PLANTS

- Ideal for replacement of lead type mist precipitators
- Incorporates FRP material for the casing and polypropylene material for the collecting electrodes
- Membranes irrigated with "weak acid"
- No lead components
- Fewer exotic metal components
- Most components manufactured out of plastic
- High SO₃ removal efficiency

MEMBRANE WESP FOR COAL FIRED BOILER APPLICATION

- WESP installed after a venturi wet scrubber as a polishing device for fine PM capture (submicron)
- High fine particulate removal efficiency demonstrated.
- <0.03 lb/mmBtu with single field
- 10 year warranty for membranes



Corporate Headquarters

6690 West Nine Mile Road
Pensacola, FL 32526

P: 850-944-4475 F: 850-944-8270

Email: apcsales@sei-group.com Web: www.southernenvironmental.com

Midwest Engineering Office

921 Eastwind Drive, Suite 115
Westerville, OH 43081

P: 614-259-6505 F: 614-259-6510