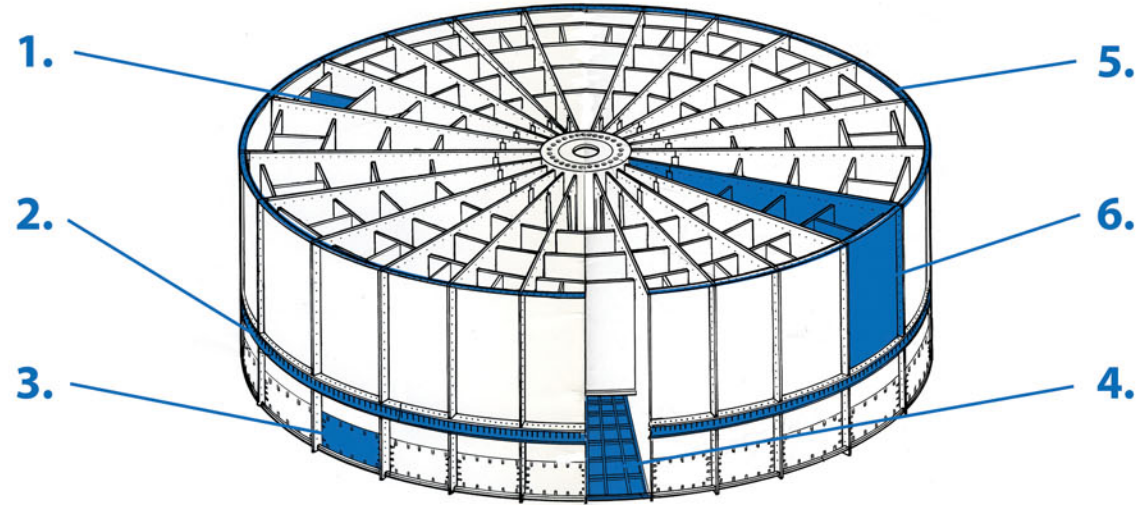


# Standard Replacement Parts

## Standard Components

Paragon provides standard replacement parts for rotary regenerative airheaters. These products undergo the same stringent manufacturing processes as all our products and are built to meet or exceed original equipment manufacturing requirements. We are proud to provide a full line of replacement parts for the air preheater, including:



### 1. Diaphragm, Stay Splitter plates

We will build any rotor assembly sub-component individually or as complete sets.



### 2. Pin Racks

An improved metallurgical product. All pins are heat treated throughout their thickness for an extended life improvement over past induction surface hardening techniques. Pin center alignment is to a tolerance of + .02 for exact smooth rotation and pin rack segment.



### 3. Shell Plates and Covers

We will provide a partial or complete shell plate replacement specific to each contract's needs. Each shell plate is rolled to an exact radius for ease of replacement and fit.



### 4. Gratings

Gratings are a major structural steel member for rotor compartments in horizontal or vertical design airheaters. Paragon can provide a complete range of grating assemblies at a competitive price.



### 5. T-bar Assembly

Quality assured, Paragon T-bars and support angles are available for all sizes on hot and cold ends.



### 6. Airheater Rotor Modules

Modular-constructed airheater rotors bolt to the center post for fast field erection. Paragon can design and produce a complete range of replacement modules for all or modular rotors, modular designs include:

- Complete frames
- Sub-component assemblies
- Modules with installed basketed element

#### Other Parts Available

- Bearings
- Seal Tabs
- Reinforcing Gussets
- Basket Access Cover Plates
- Rotor Angle
- Bypass Seal Support angles
- Circumferential Seal Mounting Angles
- Circumferential Seal Angle (Seal Ring)
- Stay Plates



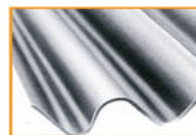
### Radial/Axial Seals

Radial seals are used to minimize the direct air to gas leakage that occurs at the center section or sealing surfaces in the airheater. The seals are attached to each diaphragm of the rotor to maintain close contact with the sealing surface that separates the air and gas streams.



### Circumferential / Bypass Seals

The circumferential seals prevent air and gas from bypassing the heating surface through the space between the rotor and the housing shell. They are retained by mounting angles bolted to the circumference of the rotor. The circumferential seals wear against the sealing rings, which are welded to the housing of the airheater. The bypass seals are mounted on the housing and seal against the rotor mounted T-bar.



### Element Tighteners

Element tighteners are driven into basketed element to help avoid continued fatigue failure of horizontal design basketed element. The tighteners re-applies compressive element sheet load, holding the element in place and extending material life.



### Access Doors

A custom size door will improve outage productivity through ease of access, order a door big enough to use comfortably and safely.



### Sealing Surface liner

Plate liners are an economical repair to your sealing surfaces. Fabricated for proper fit and plug weld installation to your existing sector surface, you can save thousands of dollars in labor and material when compared to the complete sealing surface assembly costs.

- Axial Seal Plate Assemblies
- Radial Sector Plate Assemblies
- Radial Sector Plate Adjusters
- Custom Fabricated Components

- Full Sector Basket Shims
- Basket Seal Strips
- Holding Strips
- Fasteners



# DuraGuard™ Hopper Level Detector SERIES 5000

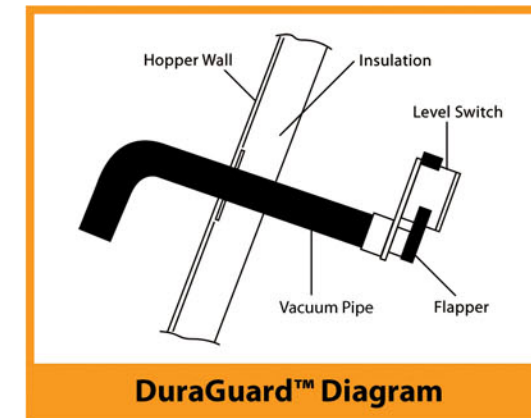
## Hopper Level Detector

The DuraGuard™ non-contact hopper level detector features a uniquely simple solution to your fly ash measurement challenges. Gravity does the work. The vacuum present in a negatively pressurized hopper (in a balanced draft boiler) pulls the detector's flapper closed. When the hopper fills above the detector's pipe opening, vacuum is lost and the flapper falls open to energize the switch, sending an alert to the operator.

This ingenious and economical detector can be used to replace nuclear design detectors at a fraction of the cost. The DuraGuard is mounted outside the hopper, so it is never exposed to fly ash or flue gas, and it can be easily incorporated into your control systems.



DuraGuard™ Hopper Level Detector



DuraGuard™ Diagram

## DuraGuard features include

- Switch contacts rated 4.5 amps at 120 VAC
- Does not require separate power supply
- Self cleaning; does not require purge air supply
- Can be equipped with quick-disconnect fittings
- Field reversible switch contacts
- For balanced draft boilers only; requires negative pressure for actuation
- High or low sulfur coal
- Economical design permits multiple detection points

## Field Service Professionals

Paragon has locally-based field service professionals who will quickly respond to your service needs. Our representatives average over 20 years experience in the power and process industries.

### Our field personal are fully capable of:

- Inspection
- Technical assistance with outage repairs
- Life extension studies
- Performance evaluations



## Consulting & Research

Paragon operates a state-of-the-art R & D facility to evaluate heat transfer properties of element surfaces. This new facility permits us to finitely evaluate all heat transfer surfaces.

### The goals of Paragon's test facility are to:

- Complete comparative performance evaluation on all existing element surfaces.
- Thoroughly evaluate new airheater element design
- Utilize and accelerated testing protocol for the effects of erosion, corrosion and ash plugging on all types of heat transfer surface

