



Design Update Bulletin

Improved Foster Wheeler Register eliminates register binding and reduces maintenance ...

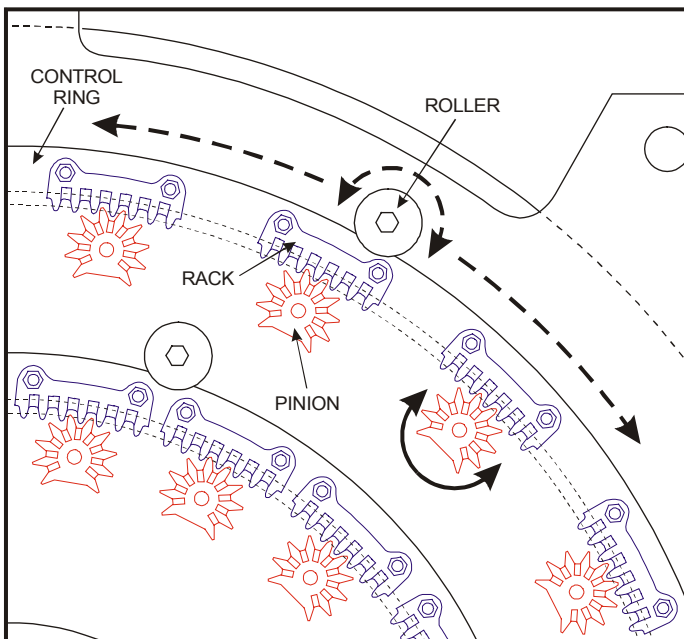
“Register Drive Train Upgrade”

New Link and Pin Drives are a cost effective replacement to bound and worn-out register drives that show increased maintenance needs...

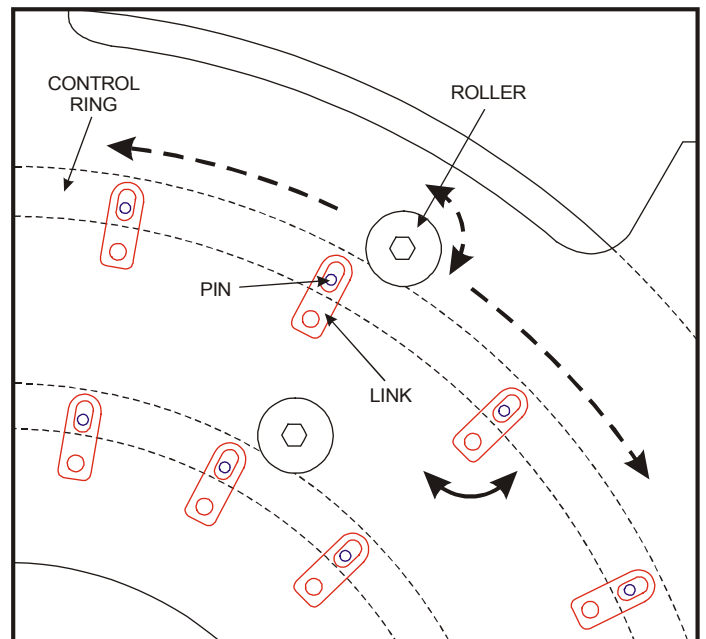
The new design offers:

- Reduced Complexity
- More Repeatable Setting
- Improved Reliability
- Simpler Maintenance
- Reduced Ash Binding

Traditional Design



New Link-and-Pin Design



The Foster Wheeler Controlled Flow Register has proven to be a reliable and rugged design since the 1970's. These registers generate swirl for the combustion air by adjustable radial vanes on the outer perimeter of the register.

In the past, vanes were driven by toothed racks attached to a control ring which in turn was moved by the register control drive. A pinion on the blade shaft translates the movement of the racks to a rotation of the blades. The most common problem with this design is binding due to ash.

The new design is much less complex: Each blade is attached to a link. Pins on the control ring pick up the link and move it. An oblong hole on the link allows for a 90° movement of the blade. The control ring is driven by a single rack and pinion assembly.

The improved design has several advantages. Binding due to ash carryover into the combustion air is less likely. Any mechanical or thermal deformation of the register is tolerated better than with the old linkage. The new design of the blade drives is less complex and easier to maintain if damage should occur. The design change not only improves the reliability of Foster Wheeler Controlled Flow registers but it is also a more cost effective solution.

Application and Design Features

- All blades are driven of a control ring
- Register backplate warpage does not impact link/pin function
- Link and pin design is less prone to ash pluggage and is simpler to maintain
- Engineering analysis of forces during operation at high temperatures showed improved load distribution

Cost Saving Benefits

- Reduces maintenance costs
- More cost effective than original design (less castings required)
- Provides long term adjustability for different operating conditions

The information presented above is continually updated. Please contact your local Foster Wheeler Power Group office for specific details.

Foster Wheeler Power Group – U.S./International Service Centers

Hdqtrs. Clinton, New Jersey
Perryville Corporate Park
Clinton, NJ 08809-4000
(908) 713-2260
Fax: (908) 713-2285
parts@fwc.com

Chicago Illinois
1401 Branding Lane Suite 315
Downers Grove, IL 60515
(630) 241-2050
Fax: (630) 241-2050

Atlanta, Georgia
1000 Johnson Ferry Road
Marietta, GA 30068
(770) 509-0337
Fax: (770) 509-0797

International Office
9645 Scranton Road Suite 230
San Diego, CA 92121-1761
(858) 458-3187
Fax: (858) 558-3406