



Design Update Bulletin

Combustion Systems

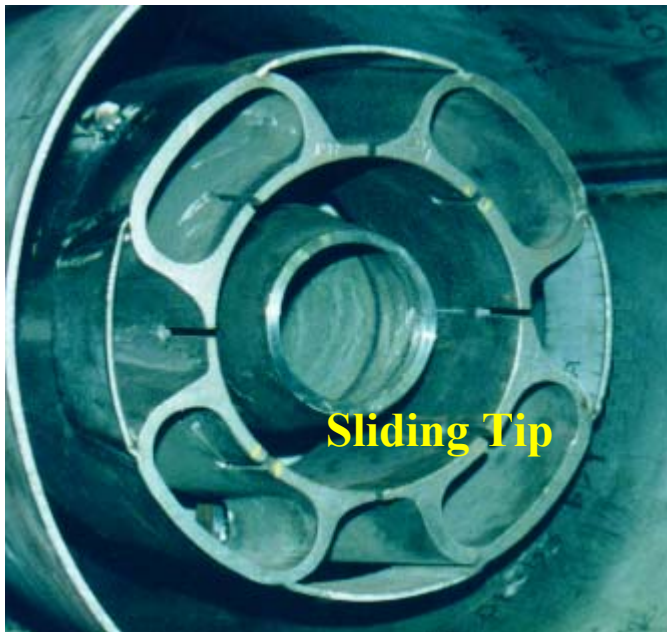
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Improved Inner Barrel eliminates leakage and reduces maintenance costs...

“Sliding Tip Inner Barrel Upgrade”

New Foster Wheeler Sliding Tip Inner Barrel design eliminates problems with older design inner barrels...

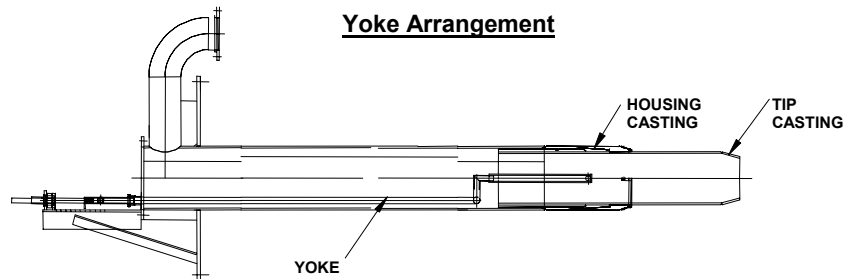


Split Flame Burner Nozzle

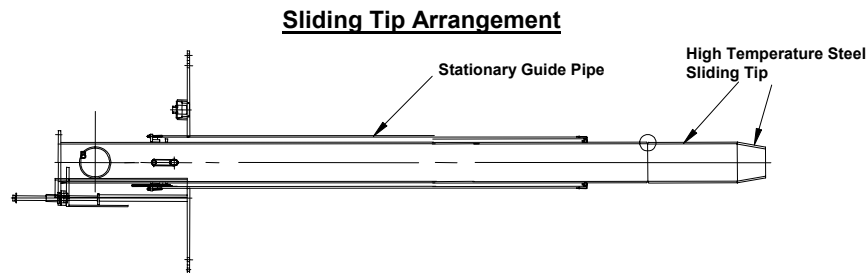
The new design offers:

- **Reliable Sealing of Inner Barrel Tip**
- **Improved Operability**
- **Greater Reliability**
- **Ease of Maintenance**
- **No Binding Due to Yoke**

The Foster Wheeler Controlled Flow/Split Flame Low NOx Burner has proven to be a reliable and rugged Low NOx Burner since the early eighties. These burners have a dual register and a Split Flame coal nozzle as key features. To keep the primary air velocities at the coal nozzle within the design range, a sliding tip at the end of the inner burner barrel can be adjusted to the varying conditions of the primary air flow.



In the past the sliding tip was designed as an insert into the inner barrel. The tip was supported at the end of the inner barrel. A yoke was provided to move the tip. The yoke created a moment on the tip that resulted in frequent binding which rendered the important tip adjustability useless. The loose seal design also had the tendency for increased leakage of coal dust into the inner barrel.



The new design is much less complex. The high alloy steel cast sliding tip is welded to a pipe which extends all the way to the back of the burner. The seal at the end of the inner barrel is kept free of coal dust with seal air. The improved design has several advantages. It uses fewer parts and only one casting. The tip moves easier, because the moment arm of the yoke design is eliminated. The tip can be pulled out easily for inspection. The use of standard pipe sizes results in a cost effective design.

Application and Design Features

- Simple and reliable tip movement to adjust burner primary air velocities
- Eliminates coal dust leakage into inner barrel
- Eliminates sliding tip binding

Cost Saving Benefits

- Reduces maintenance costs
- More cost effective than original design (1 casting instead of 3 required)
- Maintains long term adjustability to different operating conditions

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

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