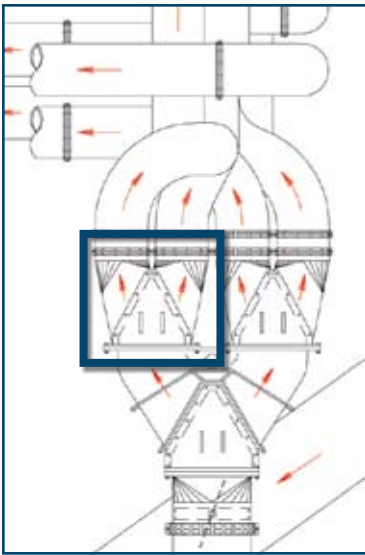## For On-Line Coal and Primary Air Flow Distribution Control

Maintaining proper coal and air distribution is not only important to prevent transport issues, it is also a crucial requirement for operating with lower emissions.

For units equipped with riffle-type coal distributors, R-V offers an on-line adjustable riffle design that can quickly and easily be used to adjust coal and primary air distribution. This design will also help control transport velocities between coal pipes.

ADJUSTABLE RIFFLE BENEFITS

- Coal and primary air flow distribution can be adjusted on-line
- Results can be seen immediately
- Lower system resistance
- Control boiler gas and metal temperature profiles
- Reduce unburned carbon, CO and NOx emissions
- Ideal complement to real time coal flow measurement systems
- Eliminate coal layout in horizontal runs
- Reduce coal line and fuel nozzle fires

MECHANICAL FEATURES

- Flow control vanes are individually adjustable
- Wear resistant materials
- Low maintenance
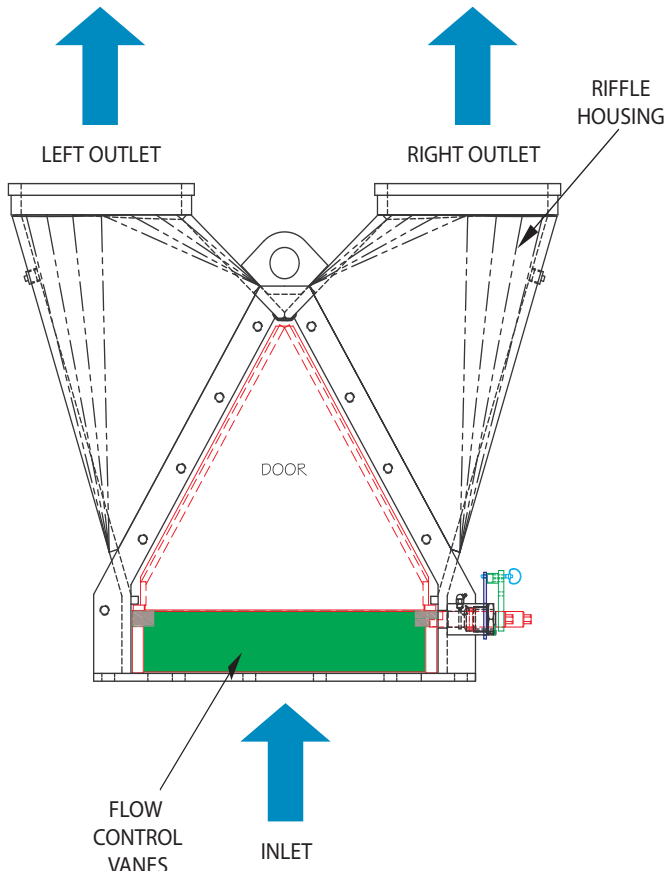- Available as a replacement kit for existing riffle housing

No longer do you need to use multiple systems such as orifices, fixed riffles or other devices that do not complement each other. This EPRI tested design is available as a direct replacement or as an upgrade to most existing riffle distributors.

View of Flow Control Vanes

ADJUSTABLE RIFFLE ASSEMBLIES

LEFT OUTLET

RIGHT OUTLET

RIFFLE HOUSING

DOOR

FLOW CONTROL VANES

INLET

NEUTRAL POSITION

VANE POSITIONING QUADRANT

BIASED POSITION

Direct replacement riffles are available for all two and three way OEM riffle distributors and can be installed without coal pipe modifications. If your existing housings are in good condition, a kit is available to convert your housings to the adjustable design.

EPRI | ELECTRIC POWER RESEARCH INSTITUTE

EPRI closed loop flow tests evaluated the R-V adjustable riffles' ability to control coal and transport air flow under simulated plant conditions. The results showed that the adjustable riffle can redistribute coal flow from an 80% - 20% imbalance to a 50% - 50% balance without increasing pressure loss. Additionally, primary air distribution can also be controlled.
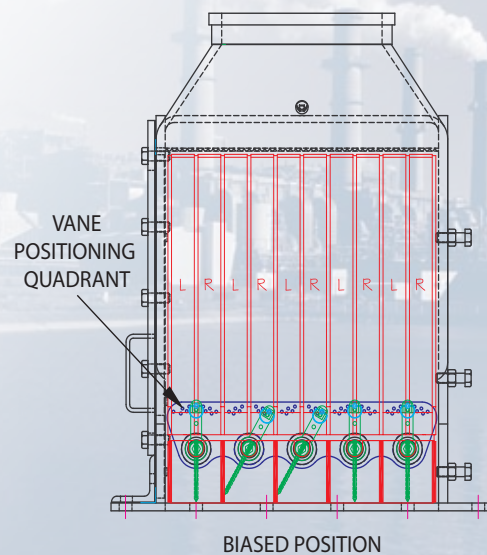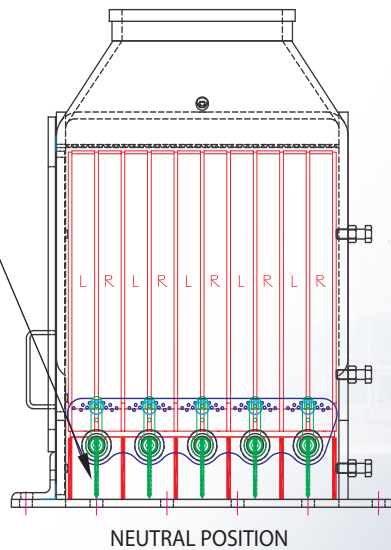
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