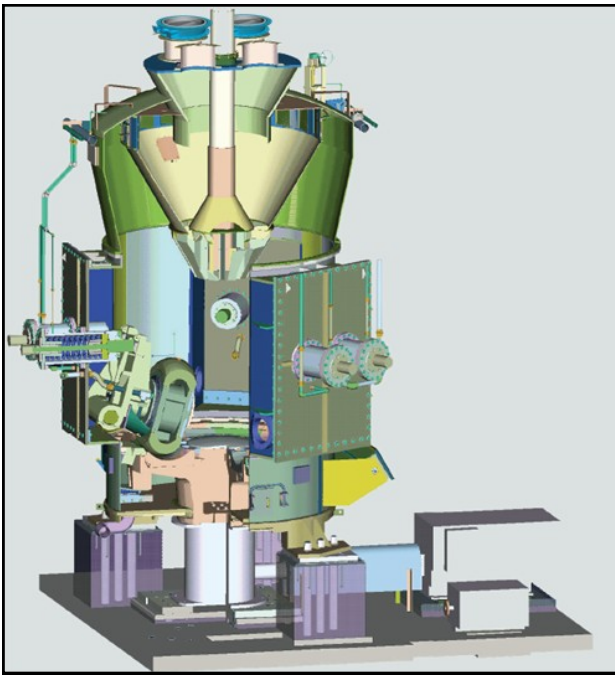


# Greenbank CoalFlo® PF Balancing Damper

## PF Balancing Solution for Multi-Outlet Mill Classifiers

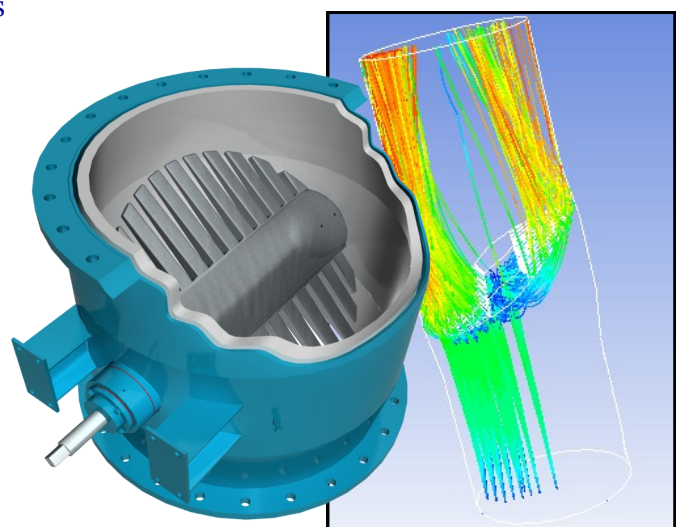


- ◆ Bespoke design specifically for coal flow balancing of multi-outlet classifiers
- ◆ Complies with PF code of practice
- ◆ Optimizes PF distribution from mill to burners
- ◆ Accurately balances coal/air flow to burners
- ◆ Balances PF line pressure drop.
- ◆ Disburses PF roping.
- ◆ Rejects excess PF particulate, not air.
- ◆ Manual or closed loop operation
- ◆ Helps reduce excess carbon-in-ash and NOx through improved combustion.
- ◆ Patent Pending
- ◆ Lined for minimum 4 years operation without maintenance

Greenbank's CoalFlo® Balancing Damper has been developed to overcome the difficulty of balancing the air and pulverised fuel (PF) down multiple pipes outlets from pulverising mill classifiers where differing pressure drops in each pipeline create unbalanced flow of air and PF to the burners, propagating poor combustion.

The Damper is designed specifically using optimized CFD analysis to suit each individual application.

The CoalFlo® damper can be installed and trimmed manually or can be connected to an intelligent closed loop balancing system which actuates each damper in accordance with the inherent pressure drop in each pipeline.



## Greenbank CoalFlo® PF Balancing Damper



### Features

#### Size range:

6" through 60"  
150mm through 1525mm

#### Working Pressure:

7.25psi  
48kPa

#### General Design:

NFPA8503  
GDCD 215

#### Design Pressure:

200psi  
1379kPa

#### Flange Designs:

DN200-DN1600  
Certified Carbon  
BS EN/ANSI/ASME/API/DIN/JIS  
Bespoke Design

#### Damper Body:

Certified Carbon Steel Body

#### Damper Linings (from):

Zalcon, Alumina Zirconium Casting  
Cast Basalt  
White Cast Iron

#### Damper Vanes (from):

White Cast Iron  
Zalcon, Alumina Zirconium Casting

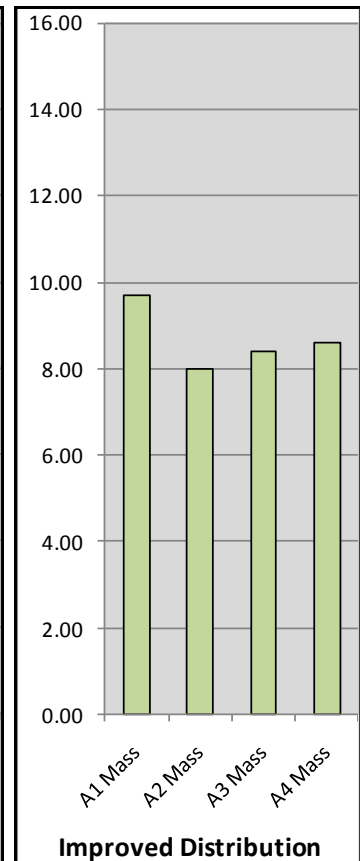
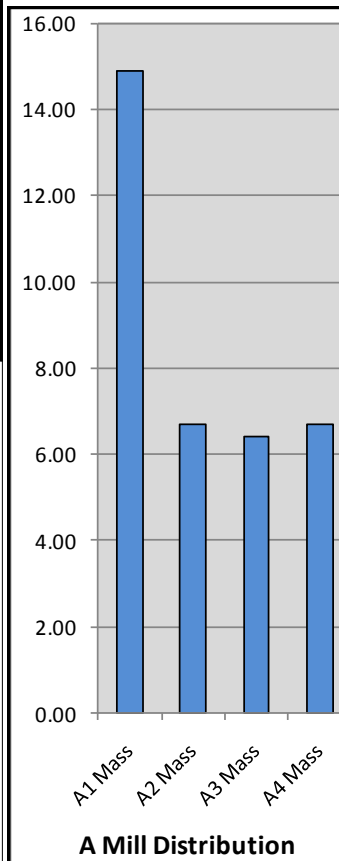
#### Bearings/Seals:

Labyrinth Seals  
Stainless Steel Seal Self Aligning

#### Actuation:

Manual lever  
Air cylinders  
Hydraulic cylinders + positioner  
Electric motor

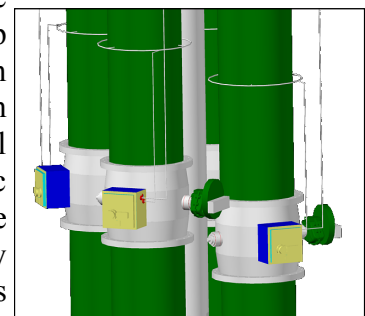
### Typical Distribution Performance Improvements Expected by Installing CoalFlo® Balancing Dampers



### Closed Loop Control Option

The control damper position is automatically positioned according to information read from plant conditions. It operates on the theory of balancing back pressures to equalise air flow.

The system employs industrial pressure transducers to measure the pressure drop difference along each pipe. This system includes stainless steel tubing and an automatic air purge system. The feedback constantly monitors the conditions and initiates a change every ten minutes or so to allow the system to become stable.



The control system can also accept data from other measuring devices, such as mass flow monitors and use this information to improve the feedback process. The system also allows for on-site calibration against manual sampling.