Howden Axial Fan Retrofit Solution

Seal air

For further information on axial fan retrofit solutions please visit www.howden.com or contact your local Howden company.

A seal air retrofit solution keeps the critical internal parts free from corrosion and contaminating gases and it reduces the maintance costs and unplanned outage. Furthermore, it will extend the lifetime of critical fan components.

When upgrading an existing power station with e.g. SCR/FGD a situation may occur where aggressive gasses can enter the internal parts of the fan and cause corrosion of rotating parts. This has a negative impact on both lifetime of components and cost of maintenance for ID and Booster fans.

Another example is two fans installed in parallel, where one fan is operating and the other is in stand-by. The fan in operation will due to higher pressure force the flue gasses into the internal parts of the stand-by fan. A situation that will typically occur when closing or starting the stand-by fan.

Installing seal air is relevant also for clean air applications (FD and PA fans) placed at or close to coastal environment, where the surrounding air can be expected to have a high chloride content.

The solution

The installation of seal air equipment serves two purposes: It prevents the flue gas or air with high chloride content from entering the inner cylinder of the fan by creating a positive differential pressure in the inner cylinder.

At the same time the heating element in the seal air equipment prevents the seal air from causing condensation.

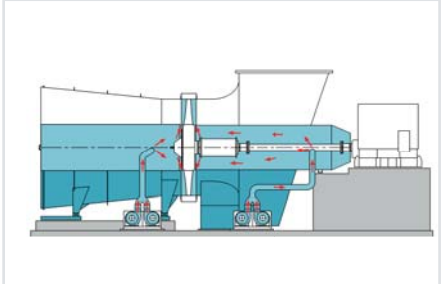
The equipment

The seal air system is a redundant system consisting of two parallel centrifugal fans working one at a time (the other as back-up in case of failure). The motor of the individual fan requires 2-4 kW for operation.

Equipment can be installed on as well single stage as two stage fans and subsequent maintenance is minimal and the maintenance needed after installation is minimal.

Example of corrosion of rotating oil seal and hub cover.

Optional image caption



Seal air principles applied to a single stage axial fan

Revolving Around You™