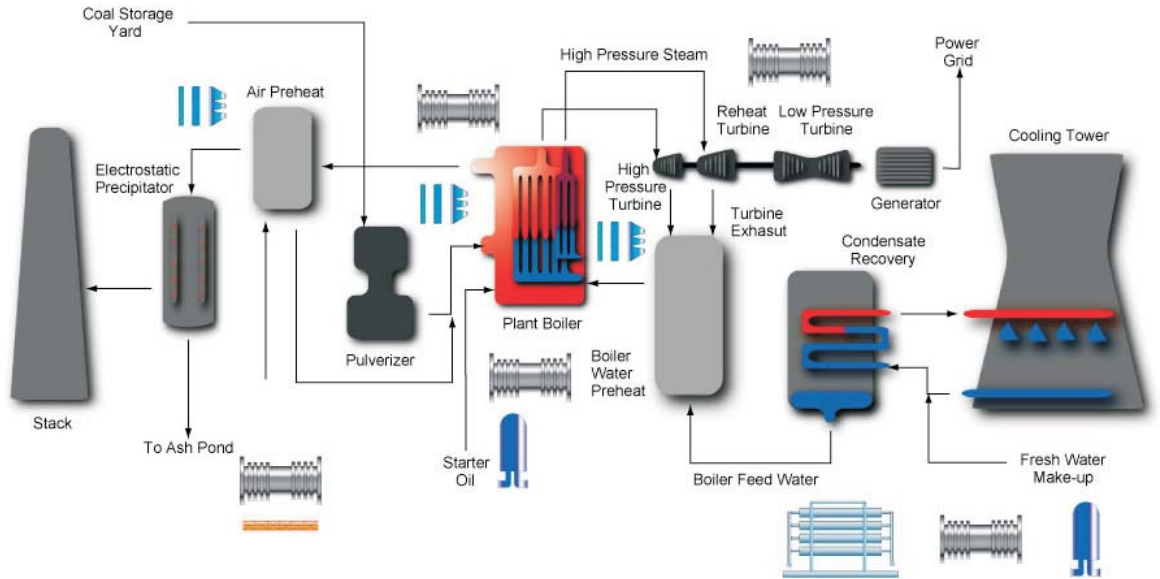







# CLASSIC

FILTER & EQUIPMENT LTD

## COAL FIRED POWER PLANT



### PRODUCT KEY

-  Liquid Filter
-  Membrane Installation
-  Air Filters
-  Expansion Joint
-  Flexible Hose

### APPLICATION

Coal from the stock yard is pulverized and delivered to the boiler where it is combined with pre-heated air and burned. Water is circulated through the boiler within tubing. As it passes through the boiler, it turns into steam. This steam is used to drive turbines that, in turn, drive generators that produce electricity. The steam is collected on the exhaust side of the turbine as it cools and condenses. This condensate is treated in the condensate recovery system and re-circulated back through the boiler feed water loop.



There are many applications for liquid filters in a power plant. In the Condensate Recovery System fresh Make-up water must be added to replace water that has evaporated to atmosphere. Classic Filter and Equipment recommends a  $5\mu$  depth style filter for this application if the make-up source is surface water.



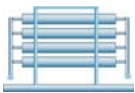
Many Condensate Recovery systems utilize RO or UF Membrane Technologies to purify water. Classic Filter recommends a  $5\mu$  pre-filter to the membranes to help protect them from fouling.



Turbines that drive the Generator have very tight tolerances between moving parts. It is critical to keep these parts well lubricated so that these parts do not break down and cause fatigue related failures. Classic recommends filters that will maintain ISO cleanliness ratings called for by the equipment designers.



Starter Oil for the boiler should be filtered to remove any particulate contaminants from entering the boiler. These contaminants can plate out on boiler tubes and impair their ability to transfer heat and, therefore, cause inefficient steam production. Classic recommends a 5 -  $10\mu$  micron filter for this application.



Membrane Technology has become increasingly popular in power generation in the area of demineralization and ion exchange. Membrane technology provides a very cost effective means for roughing demineralization and ion exchange. Classic Filter recommends **Hydranautics** membrane products for these applications.



Air Filter applications can be found throughout the Power Plant. These applications include Forced Draft Fans, Primary Air Fans, Induced Draft Fans, Condenser Air, and Control Room HVAC. All of this equipment must be protected to prevent failures due to fouling with contaminant. Classic Filter recommends **Flanders/Precisionaire** products for these applications.



There are many applications for Expansion Joints in a power plant. Anywhere that force can cause damage to stationary equipment requires a joint to absorb the energy. These applications include Boiler Feed Pump Turbine exhaust, Steam Extraction Points, Main Feed Pump, Condensate Pump Suction, Penetration Seals to the boiler, High and Low Pressure Turbine Piping and more. Classic Filter and Equipment recommends **Hose Master Expansion Joints** for these applications.



There are many areas of the plant where flexible hose can be used to facilitate installations or protect equipment from shock or pressure forces. Classic Filter carries a broad product line of flexible hose - metal and other - for these applications.

**CLASSIC FILTER AND EQUIPMENT, LTD.**

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