

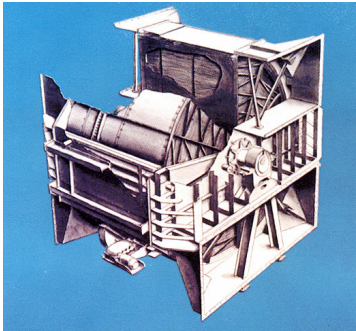
Ljungström® Air Preheater Arrangements

Vertical Heaters

These are the most common air preheaters, with the rotor mounted on a vertical shaft. There is a further naming convention depending on the direction of the gas flow. A Ljungström® Air Preheater where the gas flows from the bottom to the top is referred to as vertical (V). One where the gas flows from the top to the bottom is called "vertical inverted" (VI). Vertical Inverted arrangements are the most common type of Ljungström® Air Preheater because gravity aids in clearing any ash or particulate from the rotor.

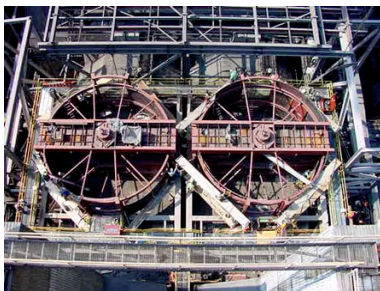
Horizontal Heaters

These air preheaters are less common and have a horizontal shaft.



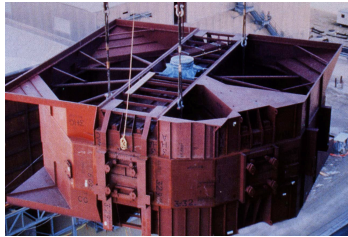
Bisector

The majority of Ljungström® Air Preheaters supplied are in the Bi-Sector design. These heaters have two basic streams, one of gas and one of air.



Trisector

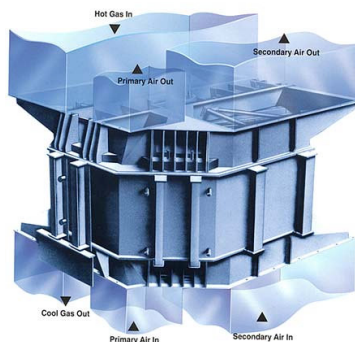
Designed for coal-fired applications, the Tri-sector air preheater permits a single heat exchanger to perform two functions: coal drying and combustion air heating.



Because only one gas duct is required, the need for ductwork, expansion joints, and insulation is greatly reduced when compared with a separate air heating system.

Equipment layout is simplified, less structural steel is needed to install the system, and less cleaning equipment is required.

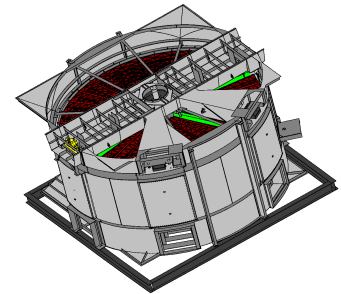
The duct arrangement of a Tri-Sector shows the air and gas flows through the unit. The size and location of the primary air duct can vary, depending on the flow and temperature requirements.



The design has three sectors - one for the flue gas, one for the primary air that dries the coal in the pulverizer, and one for secondary air that goes to the boiler for combustion.

Quadsector

The Quad-Sector takes the family one step further, with four flow streams through the rotor.



The four sectors compromise one gas and one primary air as in the Tri-Sector, but there are two separate secondary air sectors.

The design has the primary air sector 'flanked' on either side by secondary air, and this has a benefit on the total air-to-gas leakage of the unit. This method of leakage reduction is ideal for applications where the pressure differential between the air and gas sides are high, such as CFB applications.

ALSTOM

Power Environment
Air Preheater Company

ALSTOM Power Inc., Air Preheater Company, 3020 Truax Road, PO BOX 372, Wellsville, NY 14895, USA
Tel: 1-585-593-2700 Web : www.airpreheatercompany.com