



HEAT RECOVERY SYSTEM TECHNOLOGY

PERFORMANCE ANALYSIS
ROOT CAUSE FAILURE ANALYSIS
OUTAGE INSPECTION
EXPERT WITNESS
TRAINING
FIELD SERVICES
PROCESS CONTROL

Sidewall Penetration Seals

Is this you? It may be now or in the future if you answer yes to these questions:

1. Do you have a top supported HRSG?
2. Do you have large bore pipe sidewall penetrations near grade?
3. Are your sidewall penetration seals made of fabric or expanded metal?
4. Are your lateral movements of these pipes greater than 2"?
5. Do you have axial movement in addition to lateral movement?



Additional problems with fabric or metal bellow seals:

1. No insulation on the inside of a lower header area exposed to >1000 °F gas and steam temperatures leads to faster deterioration of fabric or metal bellows seals.
2. Failure of fabric or metal bellows can cause casing hot spots.
3. Failure of fabric or metal bellows can cause personnel safety risks.

From this 7" gap

to a designed gap for movement!



HRST has the solution!

Sidewall Casing Penetration Seal was unveiled as a new HRST product in late 2004. These seals are vertical for side wall casing surfaces. They provide a long term sealing solution to large piping penetrations with large lateral movements commonly found in Foster Wheeler, Alstom, and Vogt designs.

This 'patent pending' design includes no flexible metal or fabric and is custom designed for each application. A seal ring with a machined tolerance and three independent layers of insulation provide the sealing. Do you have gang seals? No problem! We can retrofit gang seals. Do you have interferences from piping or structural members? No problem! Our seals are only 8" from the casing to the containment housing. These seals are available only from HRST, Inc. as we have applied for and received patent pending status!

