



ZIRCO (1989) LTD.
5614 A Burbank Road SE
Calgary, Alberta T2H 1Z4
Telephone (403)259-3303
Facsimile (403) 259-2814
Toll Free (800) 461-3120
Email info@zirco.com

NEWS BULLETIN #1

Winter considerations for your Flame Arrestors

Flame Arrestors are passive devices that require no external power to do their job which is to protect your equipment from flame flash back. All other options require some sort of power or human interface in order to function properly and are therefore subject to failure.

Remember that flame arrestors, like your other plant equipment need regular maintenance.

In the winter flame arrestors may plug and freeze off.

There are options to mitigate this.

- 1) Mount the arrestor on an angle of at least 45 degrees, this allows liquids to drain away from the cell element through a drain plug in the transition end of the arrestors.
- 2) Freeze protect the arrestor using some form of heat tracing. Remember this is only freeze protection and the goal here is to keep the arrestor just above freezing. Arrestors work by cooling the flame and if you keep them too warm the efficiency of the arrestor is reduced.
- 3) Monitor when to clean the cell by monitoring the pressure drop across the cell. Two connections for pressure transducers (one on each side of the cell) can be requested when purchasing the arrestor. We can provide a predicted pressure drop across the arrestor and the transducers can then be used to monitor the pressure drop, when it increases it is time to clean the cell.
- 4) Flame arrestor bypass using a Rupture Pin Valve. In the event the flame arrestor becomes plugged the Rupture Pin valve will buckle and the pressure will be relieved. A Rupture Pin Valve is not compromised by pressure fluctuations and the pressure increase from a flame front coming down the stack. The Rupture Pin valve will reseat in a closed position to prevent the flame from by passing the flame arrestor. As the pin is mounted external to the process it is easy to do regular visual checks to see if the valve has tripped, or you can install a proximity switch that will alarm if the RP Valve has opened. Changing the Rupture Pin is a simple 5- minute one person job to.

Rupture or Burst Disk Option is NOT recommended. Rupture disks are designed to fail in the direction of flow if the pressure increases over the set point. Fluctuations in pressure can cause the disk to fail prematurely. If a flame front comes down the stack the increased pressure can cause the disk to fail and allow the flame to circumvent the flame arrestor and access the equipment you are trying to protect.