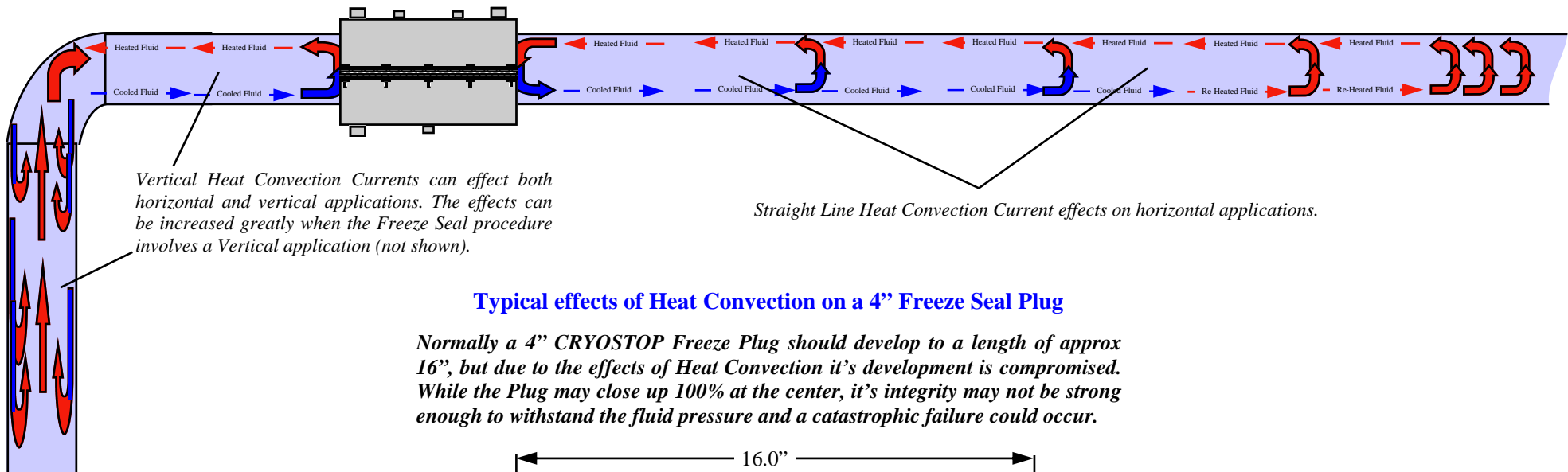


The effects of Heat Convection on a Freeze Seal Plug are present when the internal fluid is fed by an sufficient and constant source of heat. Heat Convection is most always associated with Vertical Freeze Seal Plugs. However, when there is a constant source of heat to a horizontal pipe application it becomes a critical factor to the Freeze Seal Plug Formation. Heat Convection creates a convective / circular flow of the internal fluid resulting in a heat transfer that may prevent or greatly slow the Freeze Seal Plug formation. If the heat source remains adequately intense during the procedure the fluid movement can continue throughout the complete freeze seal process.

Both vertical or horizontal lengths of pipe will experience the effects of Heat Convection when exposed to a constant source of high radiant heat such as a boiler / heater system, or even in some cases the intensity of direct sunlight above 90° on an exposed horizontal length of un-insulated pipe.



Typical effects of Heat Convection on a 4" Freeze Seal Plug

Normally a 4" CRYOSTOP Freeze Plug should develop to a length of approx 16", but due to the effects of Heat Convection it's development is compromised. While the Plug may close up 100% at the center, it's integrity may not be strong enough to withstand the fluid pressure and a catastrophic failure could occur.

