WELLHEAD TREE PRESSURE LIMITING DEVICE

Abstract of the Disclosure

A pressure relief device is used to relieve pressure in a void within a wellhead housing. In one embodiment, the pressure relief device includes a plunger having a stepped plug, wherein the plug can be fully open to allow flow from the void, restricted to allow a predetermined flow to relieve pressure, or closed to prevent flow from the void. In another embodiment, the pressure relief device includes a vacuum puller that creates negative pressure in a vessel. As fluid in the void expands, it is able to enter the space formerly occupied by the plunger. In yet another embodiment, a rupture disc is used to prevent fluid from flowing from the void, through a passage, to the wellbore. If pressure in the void exceeds a predetermined value, the rupture disc yields and allows the trapped fluid to flow to the wellbore.

Figure 5