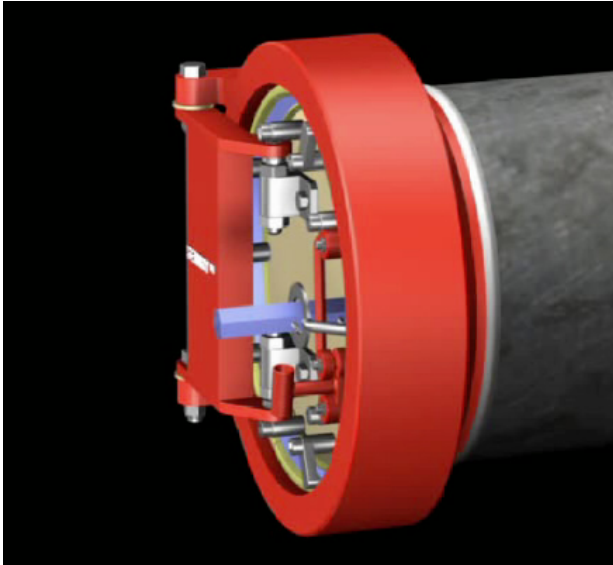
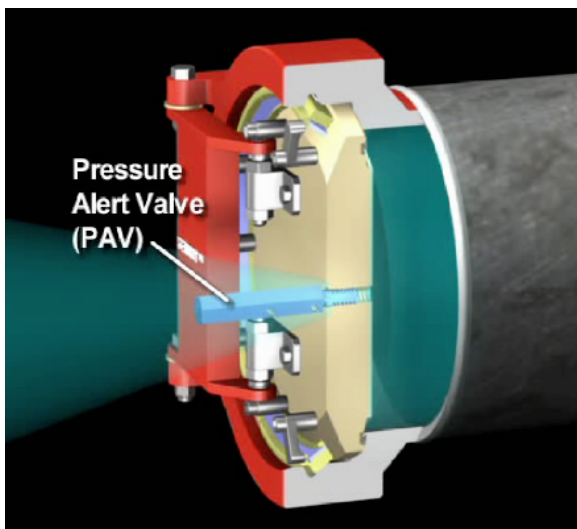
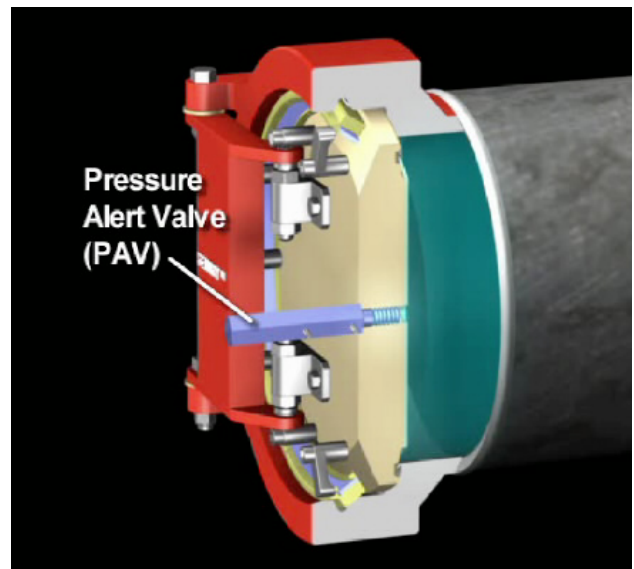


Sentry™ Quick Opening Closure Inherent Safety Features



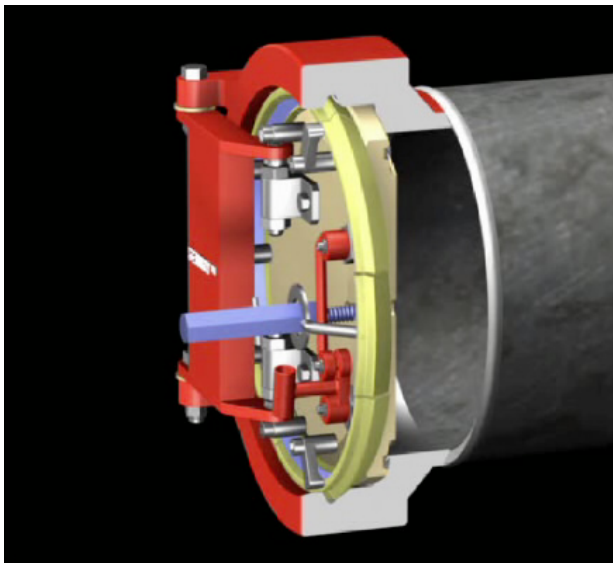
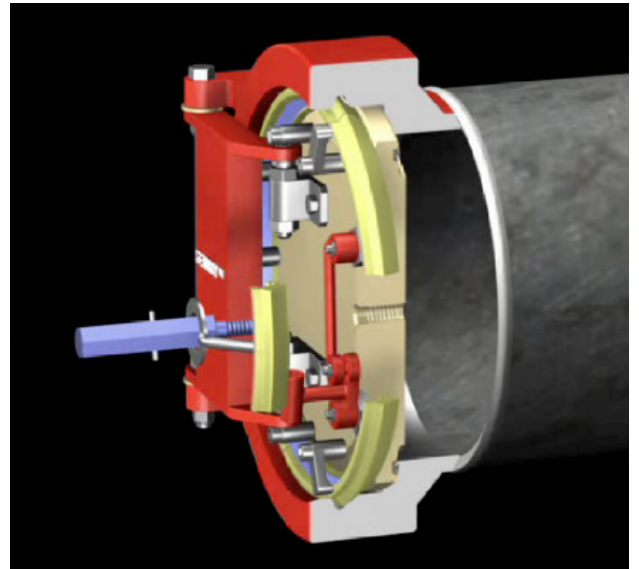
Safety is paramount with the Sentry closure with the design fully meeting the requirements of ASME VIII Section UG-35. All locking components are completely visible, both in the open and closed position, and the closure incorporates a Pressure Alert Valve that is integral to the closure operation.

The Pressure Alert Valve (PAV™) is mounted directly within the closure door and uses a simple O-Ring positioned on a taper seat to insure a consistent pressure boundary is achieved.



Only partial rotation of the PAV is required to obtain a warning of residual pressure being present within the main vessel. This feature is made possible by a machined slot along the threaded portion of the PAV to permit product to bypass the seal.

Linking the PAV to the removable Locking Segment provides a secondary safety feature. In the unlikely event that the PAV becomes plugged or blocked, any pressure within the vessel will trap the Safety Segment preventing removal and opening of the closure.



During the closing operation of the Sentry closure, it is only possible to re-install the Safety Segment and PAV assembly after the complete expansion of the Locking Segment / Carrier Ring assembly to the closed position. The Locking Segments are provided with a machined ledge that contacts the hub surface providing visual indication of the closure status.

For additional security, a secondary safety feature can be added to the Safety Segment to prevent unsafe operation. This feature requires the Door to be pushed slightly inwards to permit the Safety Segment to clear a fix stop mounted to the Door surface. Movement of the Door, of course, can only be accomplished if the vessel is completely de-pressurized and drained of handled product.

