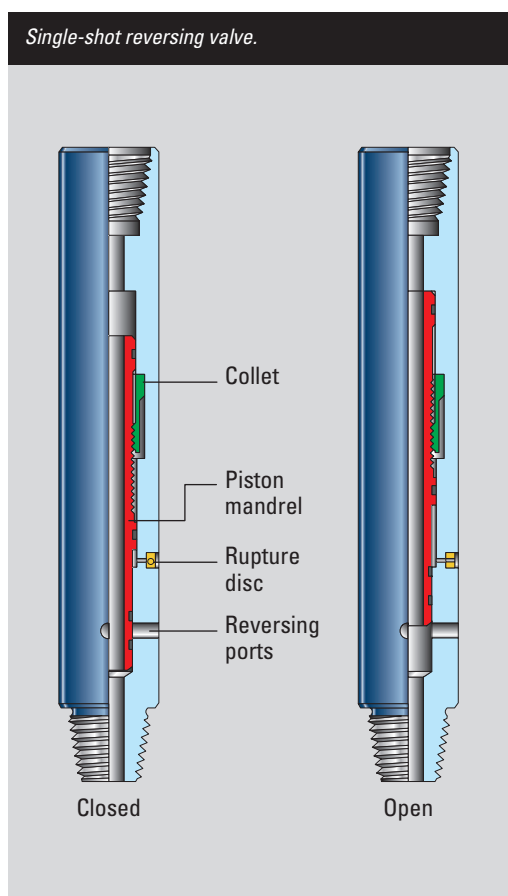


Single-Shot Reversing Valve

Single-shot reversing valve.



Description

The single-shot reversing valve (SHRV) operates by applying annulus pressure to burst a rupture disk. Once actuated, the reversing ports are locked open. The SHRV is typically opened at the completion of the drillstem test (DST) to reverse out fluids produced during the test.

A ratchet keeps the valve in the closed position until the disc is ruptured. When the rupture disk bursts, hydrostatic pressure is applied to the operator mandrel, moving it up against the atmospheric-pressured chamber. This results in uncovering eight large circulating ports for efficient well-killing operations. Once annulus pressure pushes the mandrel up, the same ratchet locks the mandrel in place to keep the tool open.

The SHRV-H is part of the 88.9-mm [3.5-in] large-bore IRIS* Intelligent Remote Implementation System.

The SHRV-J is part of the ultrahigh-pressure J-string developed for use in wells with bottomhole temperatures greater than 218 degC [425 degF]. New seal technology has enabled successful qualification testing of the J-string tools up to 260 degC [500 degF] at the maximum rated pressure.

Applications

- DST operations
- Reversing operations

Benefits

- Improves well-killing operations efficiency
- Reduces rig time

Features

- Simple, robust design
- Large flow area
- Operator mandrel locked in both open and closed positions

Single-Shot Reversing Valve Specifications

Model	SHRV-FFB	SHRV-FEA/FEB	SHRV-GAA/GAB	SHRV-H	SHRV-J
OD, mm [in]	127 [5]	127 [5]	79.375 [3.125]	178 [7]	127 [5]
ID, mm [in]	57.15 [2.25]	57.15 [2.25]	28.575 [1.125]	88.9 [3.5]	57.15 [2.25]
Pressure rating					
Differential, kPa [psi]	120,658 [17,500]	103,421 [15,000]	103,421 [15,000]	68,948 [10,000]	120,658 [17,500]
Max. on annulus, kPa [psi]	172,369 [25,000]	172,369 [25,000]	137,895 [20,000]	89,632 [13,000]	172,369 [25,000]
Max. in tubing, kPa [psi]	199,948 [29,000]	199,948 [29,000]	199,948 [29,000]	89,632 [13,000]	199,948 [29,000]
Temperature rating, degC [degF]	218 [425]	218 [425]	218 [425]	149 [300]	260 [500]
Service	H ₂ S and acid	H ₂ S and acid	H ₂ S and acid	H ₂ S and acid	H ₂ S and acid
Tensile strength at min. yield, kg [lbm]	163,293 [360,000]	163,293 [360,000]	72,575 [160,000]	226,796 [500,000]	181,437 [400,000]
Length, m [ft]	1.35 [4.44]	1.35 [4.44]	1.33 [4.35]	1.56 [5.17]	1.31 [4.29]
Weight, kg [lbm]	127 [280]	127 [280]	29 [64]	227 [500]	99 [218]
Connection	3/2 PH-6	3/2 IF or PH-6	2/2 Reg or PH-6	4/2 PH-6	3/2 PH-6