

## Pump-Through Safety Valve

Provides well-killing ability after valve closures

### APPLICATIONS

- Reservoir testing
- Operations requiring an additional safety barrier
- HPHT wells

### BENEFITS

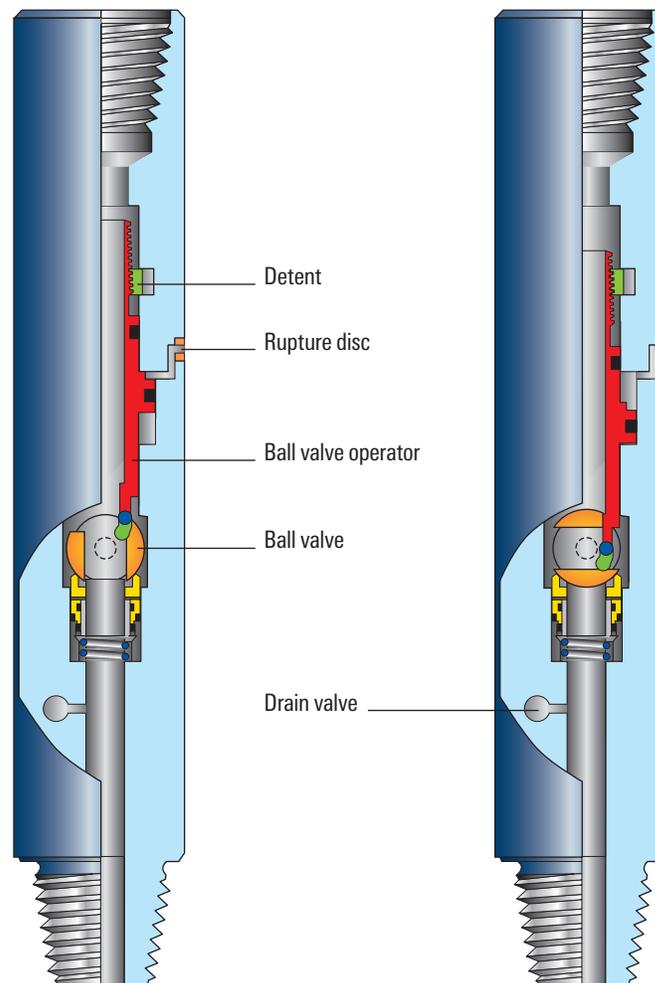
- Reliably serves as an additional downhole shut-in device for increased safety
- Protects from tubing leaks above the packer
- Allows killing the well after valve closure

### FEATURES

- Employs a high closing force
- Cuts  $\frac{7}{32}$ -in wireline cable
- Responds to tubing pressure above the ball, allowing pump through

The pump-through safety valve (PTSV) is a safety valve that closes in response to annulus overpressure but can be reopened by pumping down the tubing.

The mandrel responds to tubing pressure above the ball and reopens the valve when pumping through. The valve opens once the tubing pressure exceeds the hydrostatic by 4.14–6.89 MPa [600–1,000 psi], allowing fluid to be bullheaded into the formation or circulated up the annulus. The valve automatically closes when tubing pressure is bled to 3.4 MPa [500 psi] below hydrostatic pressure.



*Pump-through safety valve reopened to pump through (left) and closed to shut in the well (right).*

# Pump-Through Safety Valve

## Specifications

Model	PTSV-FEA/FEB	PTSV-GAA/GAB
Max. OD, in [mm]	5 [127]	3.125 [79]
Tool ID after drop, in [mm]	2.25 [57]	1.125 [29]
Pressure ratings		
Differential across housing, psi [MPa]	15,000 [103]	15,000 [103]
Differential across ball valve, psi [MPa]	15,000 [103]	15,000 [103]
Max. annular, psi [MPa]	25,000 [172]	20,000 [138]
Max. tubing, psi [MPa]	29,000 [200]	29,000 [200]
Temperature rating, degF [degC]	425 [218]	425 [218]
Length, ft [m]	5.83 [1.78]	6.04 [1.84]
Weight, lbm [kg]	270 [122]	130 [59]
Service (NACE MR0175)	H <sub>2</sub> S, acid	H <sub>2</sub> S, acid
Tensile strength min. yield, lbf [kN]	360,000 [1,600]	160,000 [712]
Connection	3½ IF or PH-6	2¾ Reg or PH-6

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