

SXVA Explosively Initiated Vertical Shock Absorber

Absorbs shock to prevent packer, gauge, and perforating string damage immediately after firing

APPLICATIONS

- Tubing-conveyed perforating applications
- Long gun strings
- High-shot-density guns
- Shoot-and-pull operations

BENEFITS

- Prevents damage to downhole test strings
- Prevents damage to packers, gauges, and electronic firing heads

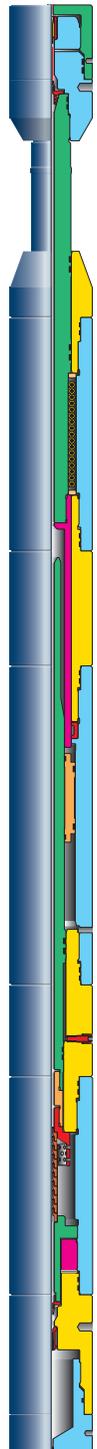
FEATURES

- Fast actuation
- Fast shock absorption
- Optional high-pressure version with high tensile rating both before and after perforating

The explosively initiated vertical shock absorber (SXVA) is used in tubing-conveyed perforating applications to prevent damage to packers, gauges, tubulars, and adjacent gun strings. It can be placed at the top or the bottom of a gun string and is long enough to act as a safety spacer.

The SXVA is rigid as it is run in the hole and remains rigid until the explosive train is initiated. At the instant the guns fire, the SXVA is transformed into an active shock absorber. A bidirectional crushable element absorbs shock from above and below the SXVA, converting the kinetic energy of the shock wave into heat and dissipating the shock load quickly.

The SXVA is sealed and thus can be run within the gun string (between the firing head and guns), providing protection to the maximum amount of equipment in the string. The SXVA is typically run above the safety spacer. All Schlumberger firing heads and conventional production valves, as well as the explosively operated production valve, can be run above the SXVA.



SXVA shock absorber.

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Specifications

Max. OD, in [mm]	3.075 [78.1]	3.075 [78.1]	4.635 [117.7]	4.73 [120.1]	5.750 [146.0]	6.635 [168.5]	6.62 [162.1]
Pressure rating, psi [MPa]	15,000 [103]	15,000 [103]	12,000 [83]	30,000 [207]	25,000 [172]	12,000 [83]	30,000 [207]
Temperature rating, degF [degC]	350 [177]	350 [177]	350 [177]	350 [177]	350 [177]	350 [177]	350 [177]
Makeup length, ft [m]	8.17 [2.49]	8.33 [2.54]	8.02 [2.45]	8.44 [2.57]	8.72 [2.65]	8.92 [2.72]	9.15 [2.78]
Weight in air, lbm [kg]	163 [74]	173 [78]	375 [170]	410 [186]	712 [323]	477 [216]	950 [431]
Max. tensile load before firing, lbf [kN]	21,576 [96]	21,576 [96]	115,261 [513]	45,700 [203]	84,000 [374]	115,261 [513]	150,000 [667]
Max. tensile load after firing, lbf [kN]	77,000 [343]	77,000 [373]	200,000 [890]	100,000 [448]	300,000 [1,334]	289,000 [1,286]	300,000 [1,334]
Detonation transfer type	Side by side	End to end	Side by side	End to end	End to end	End to end	End to end

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