

Saf-T-Guard™ Protection Sleeve

Wireline Retrievable Service Tool



Applications:

- Acid Stimulation
- Slickline and Electric-Line Operations
- Gravel Packing
- Coiled Tubing Operations
- Back-flowing the Well

Benefits:

- Protects TRSV from Fluids and Pressures
- Large ID
- High Pumping and Production Flow Rates
- Conventional Installation
- Corrosion Resistant
- Positive Setting Indication
- Low Force removal
- Conventional Running and Pulling Tool Designs

Features:

- Large Internal Diameter
- Proven Integral Lock Design
- Tattle-Tale Design
- Positively Retained Seals
- Smooth ID Transitions
- Equalization Feature
- Overpressure Protection
- Self-Balancing Option
- Positive Lock Body Components
- NACE Materials

Description:

The Saf-T-Guard™ Protection Sleeve is used to protect the most critical components of a Tubing Retrievable Subsurface Safety Valves (TRSV's) from both pressure and pumped or injected fluids during installation or remediation operations.

The Saf-T-Guard™ allows easy access to the lower completion without the removal of the TRSV while protecting the seal bores, flapper, and flow tube from potential damage associated with slickline, electric-line, or coiled tubing operations.

The sleeve is designed to interface with proven TRSV profiles and is deployed and recovered with conventional Schlumberger-style running and pulling tools. The integrated tattle-tale features of the lock ensure that the sleeve is located properly and that it remains in the profile during operation.

The large internal diameter allows the passage of large diameter perforating guns, wireline assemblies, and heavy coiled tubing strings. The smooth internal profiles also allow for high pumping rates and back-flow operations.

The Saf-T-Guard™ incorporates a unique pressure differential equalization feature that will only be used if pressure is trapped in the annulus between the sleeve and the safety valve. Any overpressure within the annulus during operations will activate a secondary pressure release mechanism to further protect the integrity of the safety valve and the production string. Once activated, the sleeve differential pressure will be self-balancing while retaining fluid isolation between the wellbore and the critical components within the safety valve.



Saf-T-Guard™
Protection Sleeve



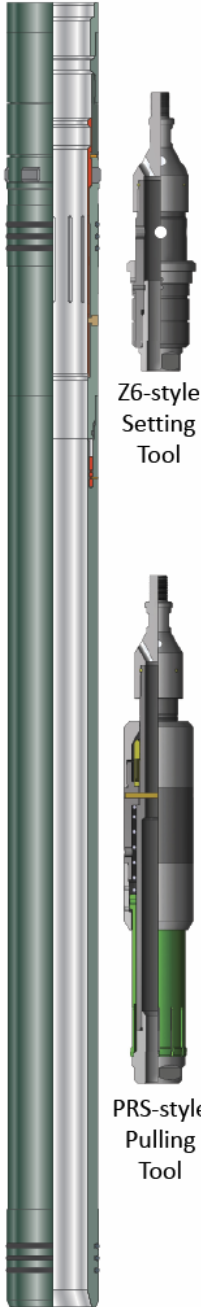
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Installation and Retrieval



Z6-style Setting Tool

PRS-style Pulling Tool

Saf-T-Guard™ Protection Sleeve

The Saf-T-Guard™ Protection Sleeve is made up to the field proven, tattle-tale, Z6-style running tool and lowered until the integral lock makes contact with the no-go shoulder. Jarring downwards shears the running tool set pins and moves the internal setting sleeve under the retention dogs and into the set position. Once fully set, the running tool tattle-tale falls into an indicator groove and the retrieval shear pins fall into a groove on the internal setting sleeve. If the tool is not completely set, the tattle-tale will fall into a secondary groove indicating that the lock is only partially set. The running tool is released from the lock by jarring upwards to shear the secondary running shear pins.

The protection sleeve is retrieved with a PRS-style wireline pulling tool. Full string weight is set down on the lock to engage the recovery tool collet fingers. Upward jarring shears the internal setting sleeve retrieval shear pins allowing the retention dogs to fall back into the lock body. Further upward jarring shears the pressure equalization feature releasing any potential trapped pressure. The recovery tool is designed with an emergency disconnect feature if required that is activated by jarring downwards. Once unset, the Saf-T-Guard can be easily retrieved on wireline and re-dressed if required.

Engineering Data:

Tubing Size in [mm]	Max OD in [mm]	Min ID in [mm]	Isolation Pressure psi [kPa]	Upper Polish Bore in [mm]	Lower Polish Bore in [mm]	Overall Length* in [mm]
7.000 [177.8]	6.040 [153.4]	4.500 [114.3]	7,500 [51,711]	6.000 [152.4]	6.000 [152.4]	110 [2,794]

* Pending the TRSV lock profile and where the Saf-T-Guard™ will be located

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†† The Patent Pending Saf-T-Guard™ - TRSV Protective Sleeve Wireline Retrievable Tool

† The engineering data provided illustrate the scope of this product offering and are not all inclusive. Additional sizes and pressure ratings are available upon request.

Direct request for quotations to: product.sales@tejasre.com