

## PV-0

### High-pressure V0 liner top packer



**Rated up to 10,000 psi**  
[69 MPa]



**Rated up to 204 degC**  
[400 degF]

#### APPLICATIONS

- Oil and gas applications and hostile gas environments
- Vertical and horizontal wells
- Offshore, deepwater, and deep onshore wells
- ISO 14310 V0 liner top packoff requirements
- Liner hanger applications requiring drilldown capabilities
- High-pressure, high-temperature environments

#### BENEFITS

- Improves hole cleaning, reduces circulation time, and decreases trip time because large fluid bypass area enables 15 bbl/min circulation rates
- Optimizes well integrity and enhances well stability and safety with ISO 14310 V0 qualified equipment
- Minimizes completion time with drilldown liner
- Improves security of liner installation with hold-down slips that prevent upward movement of the liner

#### FEATURES

- Antiswab element design
- Compatibility with mechanically or hydraulically released setting tools
- ISO 14310 V0 tested and qualified HNBR and AFLAS elements.
- High torque capacity to rotate long liners
- Integral mandrel and setting adapter design
- Standard tieback receptacle (TBR)
- Standard hold-down slips
- Integral retrievable cementing bushing (RCB) profile

The PV-0 high-pressure V0 liner top packer is a component of the cemented liner hanger system. The packer is run above the liner hanger system with either a mechanical right-hand-release running tool or hydraulic collet-running tool in high-pressure, high-temperature environments.

PV-0 liner top packer is qualified to ISO 14310 V0 and rated to a differential pressure of 10,000 psi [69 MPa] in specific casing weights.

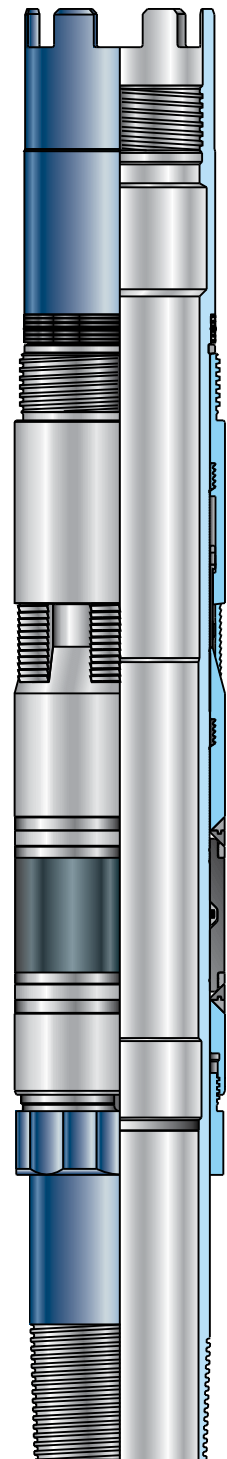
After the liner hanger has been set and cemented, the packer is set by picking up the running string, placing the dog assembly above the liner top, and slacking off weight. Excess cement above the liner top can be circulated out after the packer is set. When using the PV-0 packer, the large fluid bypass area permits circulation rates up to 15 bbl/min.

The integral setting adaptor and mandrel design permits the transmission of high torque from the running string to the liner. This feature is used to drill down the liner while running into the well. When a rotational hanger is deployed, the liner can be rotated after the liner hanger is set to improve cement integrity. Optimized design and materials maximize mandrel performance criteria such as burst, collapse, torque, and tensile ratings.

During running and cementing operations, a cementing packoff maintains a seal between the work string and the liner. The weight-set packer includes an integral retrievable cementing bushing profile, which is designed to eliminate extra connections in the liner hanger assembly.

The PV-0 packer uses standard materials with yield strength from 80,000 to 140,000 psi [552 to 965 MPa]. Other yield strengths and materials are available on request.

**Hold-down slips promote uniform setting** The hold-down slips design ensures weight is evenly distributed around the supporting casing ID, and is typically used to accommodate high capacity requirements. Hold-down slips are protected from damage by the body of the packer while running into the well. Their recessed configuration also provides a larger fluid bypass area. When setting, the tool's slip design and positive setting method create complete contact with the intermediate casing from the top to the bottom of the slip. The result is efficient, predictable and uniform transfer of weight to the intermediate casing. Slips setting is synchronized to ensure all slips take weight at the same time, thereby distributing weight evenly.



*PV-0 high-pressure  
liner top packer*

## PV-0 Packer Specifications for ISO 14310 V0-Qualified Systems with Hold-Down Slips

Liner × Casing Size, <sup>†</sup> in [mm]	Casing Weight Range, lbm/ft [kg/m]	Pressure, psi [MPa]	Temperature, degF [degC]
5.000 × 7.000 [127.0 × 177.8]	23.0–26.0 [34.2–38.7]	10,000 [68.9]	325 [162]
5.000 × 7.000 [127.0 × 177.8]	26.0–32.0 [38.7–47.6]	10,000 [68.9]	325 [162]
5.000 × 7.000 [127.0 × 177.8]	35.0–38.0 [52.0–56.5]	10,000 [68.9]	400 [204] <sup>‡</sup>
7.000 × 9.625 [177.8 × 244.5]	43.5–53.5 [64.7–79.7]	10,000 [68.9]	325 [162]
7.000 × 9.625 [177.8 × 244.5]	47.0–53.5 [64.8–79.7]	10,000 [68.9]	400 [204] <sup>‡</sup>
7.000 × 9.625 [177.8 × 244.5]	53.5–58.4 [79.7–86.9]	10,000 [68.9]	325 [162]
7.625 × 10.750 [193.6 × 273.0]	55.5–65.7 [82.5–97.8]	10,000 [68.9]	325 [162]
7.625 × 10.750 [193.6 × 273.0]	71.1–73.2 [105.8–109]	10,000 [68.9]	325 [162]
7.625 × 10.750 [193.6 × 273.0]	79.2–85.3 [119.0–127.0]	10,000 [68.9]	325 [162]
9.625 × 11.750 [244.5 × 298.4]	60.0–66.7 [89.2–99.2]	10,000 [68.9]	325 [162]
9.625 × 13.375 [244.5 × 339.7]	68.0–72.0 [101.2–107.1]	10,000 [68.9]	325 [162]
10.750 × 13.375 [273.0 × 339.7]	68.0–72.0 [101.2–107.1]	10,000 [68.9]	325 [162]
11.750 × 13.375 [298.5 × 339.8]	68.0–72.0 [101.2–107.1]	7,500 [51.7]	325 [162]

<sup>†</sup>Other sizes available on request. <sup>‡</sup>AFLAS element