

## LHP 650

### Dual-grip, thermal hydraulic-set liner hanger packer



**Rated to 3,000 psi**  
[21 MPa]



**Rated to 343 degC**  
[650 degF]

#### APPLICATIONS

- Thermal injection or production well requiring high torque and axial loads for placement
- In situ thermal environments such as SAGD and cyclic steam stimulation

#### BENEFITS

- Improves reliability in thermal conditions with one-piece integral mandrel; nonelastomer thermal element in static element; and dual-grip, opposing 360° full-circle slips
- Simplifies reaching desired depth by enabling rotation and circulation during deployment
- Matches liner strength

#### FEATURES

- Large beveled upper seal bore
- Beveled tieback sleeve with latching profile to enable
  - Installation of a tieback packer with full-bore access to the liner
  - Latching and anchoring of inner strings with pressure isolation
  - Attachment and retrieval of flow control at the liner top
  - Installation of warm-up phase technology with open/closed positions and integral thermal expansion joint
- Liner placement control (anchored liner top during thermal cycle loading)
- Adjustable surface setting pressures
- Tested and verified for well tractor transition from intermediate casing through packer and into liner without a slave string
- NACE MR0175 compliance for environments containing H<sub>2</sub>S

The LHP 650 dual-grip, thermal hydraulic-set liner hanger packer improves reliability in thermal conditions by using a proprietary nonelastomer thermal element to overcome temperature limitations of conventional packer elastomers in thermal applications (injection or production). The packer is designed to match liner strength specifications and can be rotated and circulated into position to ensure it can reach the intended depth.

#### Adjustability and setting

Surface setting pressures are adjustable by manipulating the initial setup for the setting tool. The LHP 650 packer is conveyed with a hydraulic setting tool and set by dropping a ball or by setting a plug and then pressuring up on the workstring.

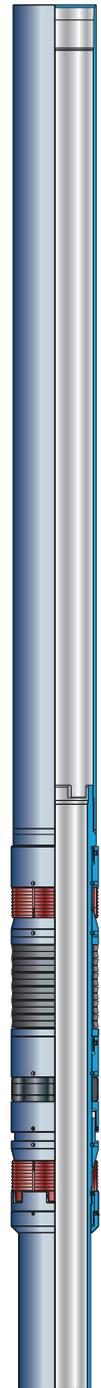
After the thermal element is packed off, the setting tool hydraulically disconnects from the liner without workstring manipulation for retrieval to surface.

#### LHP 650 Packer Specifications

Size, in [mm]	Weight Range, lb/ft [kg/m]	Packer OD, in [mm]
4.500 × 7.000 [114.3 × 177.8]	23.0 [34.2]	6.200 [157.5]
5.500 × 8.625 [139.7 × 219.1]	36.0 [53.6]	7.635 [193.9]
7.000 × 9.625 [177.8 × 244.5]	40.0–43.5 [59.5–64.7]	8.535 [216.8]

#### LHP 650 Packer Setting Tool Specifications

Size, in [mm]	Max OD, in [mm]
7.000 [177.8]	5.875 [149.2]
8.625 [219.1]	7.500 [190.5]
9.625 [244.5]	8.438 [214.3]



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liner hanger packer.