

## Slip Joint

Compensates for and accommodates changes in string length during testing

### APPLICATIONS

- Reservoir testing
- Downhole testing
- Tubing-conveyed perforating
- Stimulation and fracture operations

The slip joint (SLPJ) is an expansion- and contraction-compensating tool. It accommodates any changes in string length caused by temperature and pressure during a downhole test.

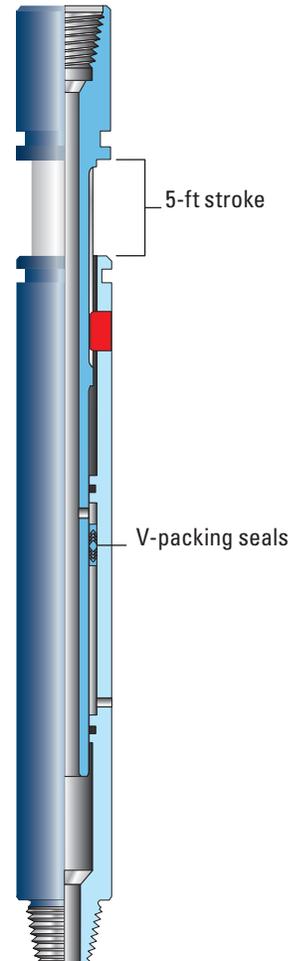
The SLPJ has two distinct parts: an outer housing and a moving inner mandrel. Its rugged design incorporates three main sections. At the top is a splined moving mandrel that allows torque to be transmitted through the tool. Below this are two pressure chambers: one open to tubing pressure and the other open to annulus pressure. The tool is hydraulically balanced and insensitive to applied tubing pressures.

Testing SLPJs have a stroke of 5 ft; the total number of SLPJs required depends on well conditions and the type of operation. For a standard test at 10,000 ft, two or three SLPJs are normally used. For tests involving injection or stimulation, the associated cooling can cause a large amount of string contraction, and four or five SLPJs may be required to compensate for string movement during operations.

A special clamp is added to securely join the mandrel and the housing of the SLPJ to address safety considerations when the tool is handled at the surface.

SLPJs make it easier to space out the tubing-conveyed perforating guns when testing is conducted from a semisubmersible.

SLPJs are not required when the CERTIS\* high-integrity reservoir test isolation system is used.



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### Specifications

Model	SLPJ-F	SLPJ-G
Max. OD, in [mm]	5 [127]	3.125 [79]
Tool ID, in [mm]	2.25 [57]	1.125 [29]
Differential pressure, psi [MPa]	15,000 [103]	15,000 [103]
Temperature rating, degF [degC]	375 [191]	375 [191]
Length (collapsed), ft [m]	23.2 [7]	21.5 [6.6]
Weight, lbm [kg]	980 [445]	630 [286]
Service (NACE MR0175)	H <sub>2</sub> S, acid	H <sub>2</sub> S, acid
Tensile strength min. yield, lbf [kN]	314,000 [1,397]	151,600 [674]
Stroke, ft [m]	5 [1.5]	5 [1.5]
Connection	3½ IF or PH-6	2¾ Reg or PH-6