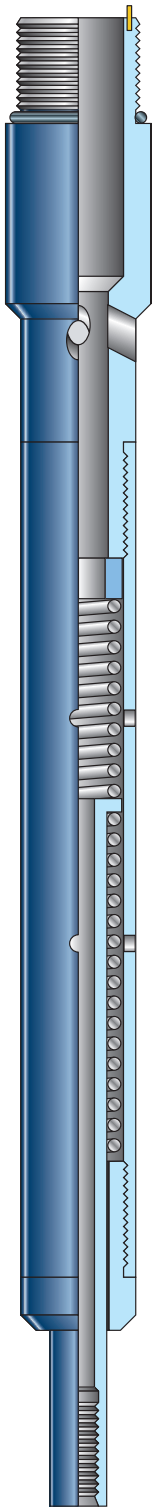
Schlumberger

A-2 Shock Absorber

The A-2 shock absorber is an accessory slickline tool
that can be attached to an appropriate C or M lock.



APPLICATION
- Pressure- and temperature-gauge protection in single and dual completions

BENEFIT
- Absorbs upward and downward shock loads

FEATURES
- Large bypass area
- Spring-type dampener
- Rugged, field-proven design
- Available in various materials

The A-2 shock absorber is ported to allow for bypass of well fluids during production, and it is used when a bottom hole pressure- and temperature-measuring instrument is attached and installed in a landing nipple. The double-action springs of the A-2 shock absorber are designed to absorb upward and downward shock loads.

DESCRIPTION AND OPERATION
The primary application of the shock absorber is to prevent damage to pressure or temperature gauges that are suspended from it. It isolates the gauge from the jar-ring action produced when setting and pulling the lock on which the shock absorber was run.

The A-2 shock absorber features double-action springs, which absorb upward and downward shock loads. These springs also act to reset the shock absorber into position so it will absorb repeated loads.

The A-2 consists of a body, washer, upper and lower springs, spring housing, spring plug, and plunger. It is ported for fluid bypass when running, and it is constructed of corrosion-resistant materials to prevent tool damage when pressure- and temperature-recording tests are performed for extended periods.

Operation of the shock absorber is self-contained; no slickline operation is needed to initiate its function. Downward shock loads applied when setting the lock are transmitted through the upper body and washer to the upper spring. This spring initially cushions the downward shock loads. Upward shock loads applied when retrieving the lock are transmitted through the upper body, spring housing, and spring plug to the lower spring. This spring initially cushions the upward shock loads.

A-2 Shock Absorber Specifications[†]

OD (in. [mm])	Upper Connecting Thread[‡] (in.–TPI)	OD (in. [mm])	Upper Connecting Thread[‡] (in.–TPI)
1.406 [35.7]	1¼–14	2.437 [61.9]	1 15/16–14
1.546 [39.3]	1 5/16–14	2.718 [69.0]	2½–12
1.718 [43.6]	1⅜–16	3.093 [78.6]	2⅜–12
1.750 [44.5]	15/16–10	3.450 [87.6]	2 15/16–12
1.786 [45.4]	1⅝–14	3.825 [97.2]	2 15/16–12
1.892 [48.1]	1 9/16–18	4.250 [108.0]	3⅝–12
2.160 [54.9]	1¾–18	4.250 [108.0]	3 13/16–12
2.171 [55.1]	1½–18	4.375 [111.1]	3¾–12
2.187 [55.5]	1 15/16–14	5.687 [144.4]	5–6

[†] For use with all MD isolation tools and Schlumberger-type locks.
[‡] Lower connecting thread is ¾ in.–16 UNF-2 for all assemblies.