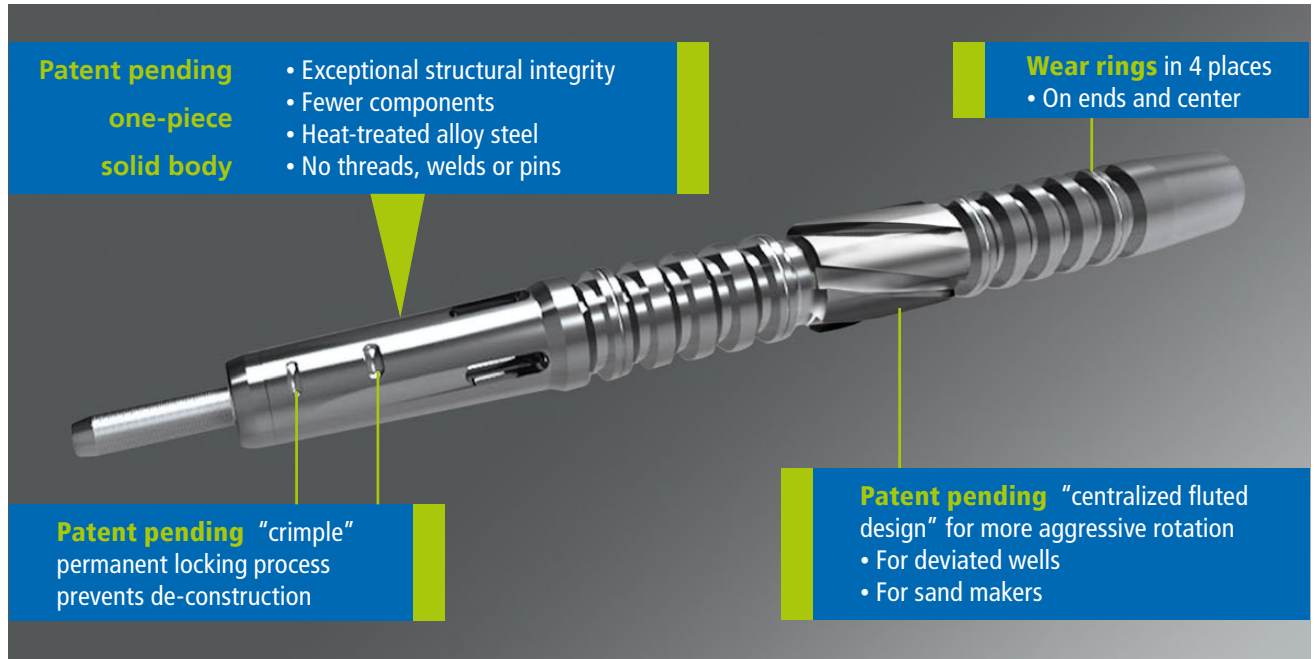


## RAGE Plungers



Flowco Production Solutions is the premier provider of USA-made Gas Lift and Plunger Lift equipment. Leutert as a pioneer of the artificial lift industry is focused on well optimization through the use of advanced artificial lift technologies. Flowco Gas Lift and Surge Plunger Lift equipment contributes to this aim. Our lift systems and instruments drive higher returns by optimizing production, reducing operating costs and minimizing downtime with reliable, custom-designed solutions tailored to the needs of each well.

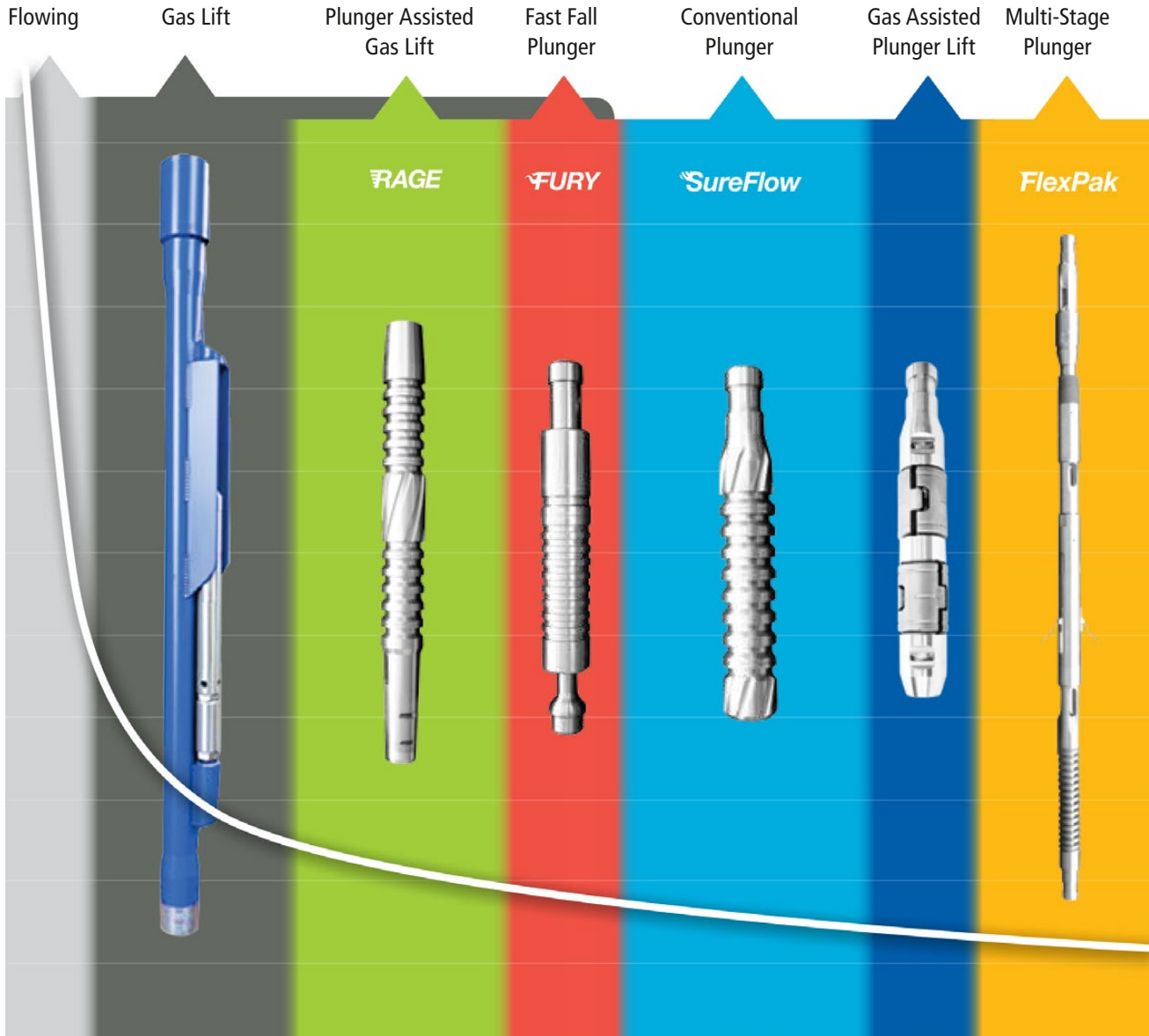
### Technical Specifications

Diameters	: 2 3/8" and 2 7/8" Rage Plunger
Body Area	: <ul style="list-style-type: none"> <li>• Solid ONE piece design*</li> <li>• Heat-treated alloy steel</li> <li>• Exceptional "crimple" fastening method*</li> <li>• Incorporated wear rings</li> <li>• Centralized fluted design* (other options available)</li> </ul>

\* (PATENT PENDING)



## Applications Life Cycle



Flowco applications change over the life cycle of a well. Refer to the Applications Guide to determine which Flowco series plunger best fits your well.

## Rage Plunger Types



**Shorty:** Deviation and low volume.

**Center Flute:** High deviation/high volume wells. Used for paraffin control and for more consistent plunger wear.

**Standard Groove:** Low deviation/high volume wells. Paraffin control.

**Single Pad:** Better seal/deviated wells.

**Dual Pad:** Best seal/low volume bypass wells.

## Plunger Tracking and Fluid-Level Measurement

Leutert's sonoecho™ plunger-tracking and fluid-level measurement instrumentation tracks the fall velocity of any plunger during its shut-in to optimize production and ensure safety without the need for costly wireline techniques. The sonoecho™ includes equipment, software, and allows technicians to gather and interpret the fall data.



Cased sonoecho™



## Applications

- Determination of plunger-fall times to ensure that the plunger has enough time to reach bottom
- Assessment as to whether the plunger got stuck in the tubing string, due to tight spots, hydrates, or scale
- Determination if liquid loading is preventing the plunger from surfacing
- Indication of tubing leak above the fluid level
- Understanding of the liquid levels and their effect on inflow performance, bottomhole pressure, fall velocity, and uplift potential

## Features

- The sonoecho™ incurs less cost than wireline because it can be run easily on wells already operating with plungers with only equipment rental and the services of one technician.
- The sonoecho™ is attached to the lubricator with minimal disturbances to surface equipment so the well does not need to have to be shut in and can operate normally for an accurate plunger fall measurement.
- Because the well requires no additional shut-in that would build unneeded perforation pressure, the plunger is in a fluid column when it reaches bottom, which keeps personnel safe and avoids damage to the bottomhole, plunger, and surface equipment.
- Files from the software can be interpreted on site and sent by email to a remote office for timely well optimization.