

NEW!

Maximize production of your deep or low GLR wells

Our improved next-generation multi-stage tool is quicker and easier than ever to remove or reset. Its unique pack-off design ensures that the seal element remains intact, whether moving or retrieving the tool, increasing efficiency and saving money.

Plunger lift is a cost-effective method of removing liquids from a well. However, there are instances when a single plunger lift system is not enough. In a particularly deep well or a well with low gas and high liquids (low GLR), the multi-stage tool can be utilized to create multiple plunger lift systems in one well. By lifting the liquid load in stages, the well is able to more efficiently utilize its own energy to remove fluids.

Functioning like an intermediary standing valve, the multi-stage tool is set in the tubing above a conventional plunger, allowing installation of another plunger above it. A spring is built into the bottom of the tool to absorb the impact of the lower plunger, while a free-floating spring is installed above the tool to absorb the impact of the upper plunger.

During the first cycle, the lower plunger carries fluids up the tubing and through the tool. Upon shut-in, the tool's ball check engages, retaining the fluids until the upper plunger falls from the surface, settles through the liquids and lands at the tool. Simultaneously, the lower plunger falls back to the bottom. During the next cycle, the upper

plunger delivers fluids from the tool to the surface, while the lower plunger delivers more fluids to the tool. Both plungers work in tandem in subsequent cycles. All multi-stage tools perform in a similar way.

At PCS, we go beyond the basics. Our new Multi-Stage Tool excels in tough conditions and features an improved pack-off design. The tool removes cleanly and resets easily, saving you valuable time and money.

Our commitment to optimizing production is evidenced in the PCS Multi-Stage Tool:

- > **NEW and better pack-off design makes moving or retrieving the tool easier than ever before**
- > **Innovative design performs in conditions where there are equal amounts of liquid and gas**
- > **Seal element and ball check retain fluids above the flow cage, preventing liquid slippage**

Choosing an artificial lift system is a big decision. Take a closer look at the PCS Multi-Stage Tool, and it's plain to see that our tool isn't just the best choice, it's the only choice.



PCS MULTI-STAGE TOOL



- 1 BALL CHECK (FLOW CAGE)**
 - > Maintains one-way flow of liquids up the tubing
 - > Retains fluids delivered by the lower plunger until the top plunger retrieves fluids for delivery to the surface
- 2 SEAL ELEMENT (PACK OFF)**
 - > Improved design ensures intact resetting and removal
 - > Seals tight as fluids are delivered
 - > Retains fluids above the flow cage and prevents liquid slippage
- 3 RESETTABLE LOCKING MECHANISM**
 - > Holds the tool in "Open" position for easy installation
 - > Easily sets into "Closed" position when the tool reaches the appropriate depth
- 4 COLLAR STOP**
 - > Easier to set and release than typical tubing stop
 - > Easily removed
 - > More reliable than shear pin construction
- 5 BUMPER SPRING**
 - > Absorbs impact of arriving plunger and allows liquids to flow through
 - > Heavy-duty one-piece construction is stronger and more durable than before

Patent Pending

SPECIFICATIONS / MATERIALS

API standard fishing neck
4140 steel (stainless available)
By-pass dump for easy removal
Standing valve with ball seat

Tubing Size	Weight
2 ¹ / ₁₆ "	3.25 #/ft
2 ³ / ₈ "	4.70 #/ft
2 ⁷ / ₈ "	6.50, 7.90, 8.70 #/ft
3 ¹ / ₂ "	9.30, 12.59 #/ft



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FOR MORE INFORMATION, PLEASE CONTACT YOUR
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