Downhole Tools

Downhole tool - Pump Anchor (hrough Tubing Anchor)

The pump anchor designed and developed by Weima is used to let the rod pump seal in the tubing, not use the conventional seating any more. It can also be used in oil wells that must constantly adjust the pump setting depth of rod pump as the supply level changes to improve production efficiency.

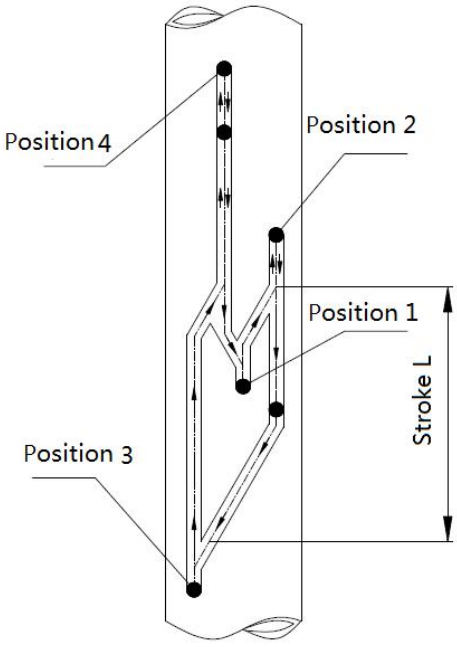
Features:

1. The product can be seated and unsealed cyclically without damaging the sealing rubber parts;
2. The product is lifted up, rotated to the right, and then lowered the seat seal. During the movement, there is no risk of disassembling the rod and pipe string;
3. Sealed parts can be used normally in oil wells up to 120 ° C (250 ° F)。

Operation sequence:

Step 1: Document the stroke length of the pump, plus rod stretch, plus the setting stroke(L) of the anchor.

Step 2: Attach anchor to the bottom of pump, position dowel pin in the position 1 (Starting point) on the anchor and start running pump/anchor assembly into tubing with rod string. Friction may be created by the anchor springs running into the tubing and an extra downward force may have to be applied at surface to start pump/anchor assembly into the tubing.



Step 3: Run pump to desired setting depth, and position dowel pin in the position 2(lowering).

Step 4: Set the anchor by raising the polished rod the distance as established in step 1, then lower full weight of rods on the anchor to seat and pre-load pack-off.

Step 5: Pull straight up on the rod string to unset the anchor, lift up for pump inspection.

Step 6: If reposition anchor, raise or lower to desired setting depth and re-set as in step 3 & 4.

Notes:

In shallow wells the rod string may have to be picked up on or two feet and dropped to set anchor and expand pack-off.

In wells that have high bottom hole pressure or partially flow, weight may be attached to bottom of anchor to assist in holding it in place

Downhole Tool - On-off Tool

On-off tool is used for oil wells with pump diameter larger than the tubing diameter. It is a tool for disassembly and connecting the sucker rod and the plunger of the pump in the well.

Working Principle:

Connect: Make the weight of the rod string fully act on on-off tool. At this time, the rod string is turned to the right until the upper part enters the lower barrel. Slowly lift the rod string by 1/2 turn counterclockwise to try pumping and check wether it is connected. If not, then repeat the above action.

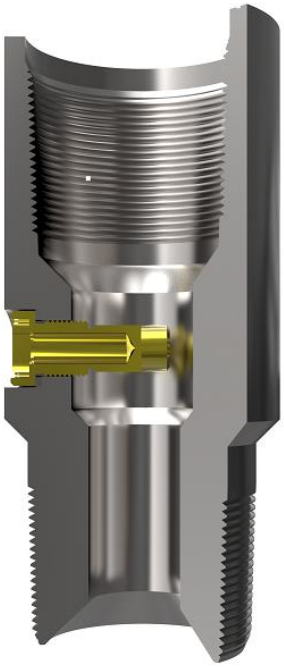
Disconnect: Make the weight of the rod string fully act on on-off tool, and turn the rod string clockwise to a certain position (at least 1/4 turn). Lift the rod string slowly to check whether it is disconnected. If not, repeat the above action.

Downhole tool - Drainage device

Drainage device is a supporting equipment for sucker rod pump. During the operation, it is used to connect tubing and casing to drain the fluid in the tubing into the well. Make sure that there is no well fluid in the lifted tubing string to improve wellhead operating conditions and reduce wellsite pollution.

Working Principle:

The drainage is connected between barrel and standing valve. When inspection the pump, pull out the sucker rod string and plunger assembly. Put the sucker rod coupling from the wellhead to cut the copper pin to make the tubing and casing connected.



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