

Multi-layer Fracturing Without Moving the String

Many low-permeability oil and gas field fracturing layers are characterized by thin layers, multiple layers, and large spans between layers. Conventional fracturing strings can only handle one of the oil and gas layers at a time. If all wells are to be product simultaneously, they need to be fractured separately, causing problems such as long construction period, serious formation pollution, and high fracturing costs. Tiered fracturing technology can solve the multi-layer fracturing problem. The use of dual-stage packer and sliding-sand sandblaster for fracturing and fracturing can achieve the purpose of not fracturing two layers at a time. By further improving and optimizing the construction string, a three-stage packer + ball-fed layered fracturing technology can be used to achieve a four-layer fracturing of the bottom-up fixed column at a time, which will be more fully and better applied in Multi-layer fracturing.

Advantages:

- » Multiple layers are fractured in one trip.
- » Minimize accidents of blow-out.
- » Reduce operating time and save operating cost.

Main specs:

- » Applicable to all sizes of wellbore.
- » Working pressure: 35, 50, 60, 80, 100Mpa.
- » Working temperature: 120, 135, 145, 160 C°.

■ Fracture one layer with single retrievable packer

- » Single packer fracture one layer below packer.
- » Fracture one layer above packer.
- » Single packer fracture upper & lower layer.

■ No resistance multi-stage multi-layer 2, 3 packer fracturing string

- » Fracture two (three) layers in one trip without moving the string.
- » Packers are set and released stage by stage.
- » Sand blasting nozzle flow area is bigger than string's flow area.
- » After fracturing operation, can integrate layers to conduct flowing production without moving the string.
- » Suitable for vertical well, deviated well, directional well.

■ Multi- stage multi-layer 3, 4-packer fracturing string

- » Fracture three (four) layers in one trip without moving the string.
- » Packers are set stage by stage during fracturing operation, easy to trip out string/high string tripping out rate.
- » After fracturing operation, can integrate layers to conduct flowing production without moving the string.
- » Applicable to vertical, deviated and horizontal wells.

■ Multi-stage multi-layer 5, 6, 7, 8-packer fracturing string

- » Fracture 5, 6 or 7 layers in one trip.
- » Well can put into commingling production after fracture without tripping out fracturing string.
- » Applicable to vertical, deviated and directional wells.

