

RAPTOR™ VELOCITY™

ANNULAR FRAC PACKER & VELOCITY SHIFTING TOOL



OVERVIEW

Interra Energy's Raptor OC™ (Open-Close) Multistage System is composed of mechanically shiftable sleeves operated with the Velocity™ Shifting Tool and the Raptor Annular Frac Packer. The shifting tool is uniquely positioned below the annular frac packer protecting it from proppant during stimulation.

OPERATION

The Raptor Annular Frac Packer and Velocity Shifting Tool are run to the bottom of the well on coiled tubing or jointed pipe. When the bottom hole assembly (BHA) is in tension, flow is initiated down the tubing activating the shifting tool.

The BHA is then pulled up through the Raptor OC Sleeve, auto-locating, shifting open and self-releasing from the profile in one continuous movement. The BHA is then positioned below the sleeve, setting the annular frac packer to isolate all lower intervals. Once the frac is complete, the packer is released and positioned above the sleeve.

The operator then has the option to activate the Velocity Shifting Tool, run down through the Raptor OC sleeve and shift the interval closed. The process is repeated for the remainder of the well until all intervals have been stimulated.

After the stimulation is complete, the Velocity Shifting Tool can be run to the bottom of the well, activated and pulled to surface, opening all the Raptor OC Sleeves in one continuous motion.

FEATURES & BENEFITS

- Shifting tool is run below the frac packer to protect it from proppant.
- Auto-locate feature eliminates the time required to locate sleeves.
- Customizable flow rates for shifting tool activation.
- Shifting tool can be run without the frac packer for packer-less applications.
- Minimized time between stages.
- Open all valves with one continuous upward movement, no cycling required.
- Does not require a toe port to activate the first stage.
- Optional component assists with closing sleeves in long reach applications.
- Slimhole, post-frac shifting BHA options.
- Positive shift indication on surface.
- Ability to quickly mitigate screen outs.
- Packer positioned below the sleeve protecting it from the frac and minimizing casing collapse instances.

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SPECIFICATIONS

Velocity - Packer				
Casing Data			Tool Data	
OD	Weight		BHA OD	
in / mm	lb/ft	kg/m	in	mm
4.5 / 114.3	11.6	17.26	3.858	98.00
	13.5	20.09	3.780	96.00
	15.1	22.47	3.653	92.78

Velocity - Packerless				
Casing Data			Tool Data	
OD	Weight		OD	
in / mm	lb/ft	kg/m	in	mm
4.5 / 114.3	11.6-15.1	17.26	3.600	91.40
			3.750	95.25

(Slim)
(Standard)

*A 2.3" OD Ultra Slim shifting BHA is available.