

BPS (Burst Port System)™ - Toe Initiation

Traditionally, tubing-conveyed perforation guns have been the necessary means of gaining access to the formation at the toe of a horizontal well for stimulation purposes. This perforating method requires expensive setup and complicated operations to achieve what our BPS technology can accomplish at a fraction of the cost, and without tubing. BPS uses pressure-activated ports to create a conduit from the wellbore to the formation face. BPS collars contain predrilled holes covered by burst plates designed to open at a predetermined pressure. These collars are integrated into the production casing and are typically cemented in place. The BPS ports are opened by pressurizing the wellbore at surface.

BPS- Toe Fracturing

Multiple BPS collars can be installed throughout the toe section with predetermined spacing, resulting in the stimulation equivalent of multiple perforation clusters across the interval. To ensure all BPS ports are open, bio balls can be pumped from the surface to seal off the open ports in the collar. This allows for a subsequent pressure increase to rupture the remaining ports in all collars throughout the interval.

Features

- Manufactured to any casing specification
- Customized ports for desired flow area
- Full bore ID maintained by collar

Benefits

- Significant cost and time savings compared to traditional toe perforation methods
- Reduced operational risk by eliminating the need for coiled tubing, workover rig, or wireline
- No ID restriction for easy passage of cementing equipment
- 100% casing pressure test available when combined with i-Seat™ technology

Applications

- Cemented and openhole horizontal multistage completions
- Acid or proppant fracturing
- High temperature applications, up to 450°F (232°C)
- Under pressured reservoirs preventing the frac balls from easily flowing back
- Toe-frac initiation for plug and perf, and other cemented installations



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Technical Data

BPS	Casing Size in. (mm)	Length ¹ in. (mm)	OD in. (mm)	ID in. (mm)	Flow Area in. ² (cm ²)	Max Pressure
450	4.50 (114.0)	18.0 (457)	5.75 (146.1)	As per casing weight	2.25 (14.5)	Limited by casing pressure
450 (Slim-Hole)	4.50 (114.0)	25.12 (638.0)	5.23 (132.9)	As per casing weight	3.76 (24.3)	Limited by casing pressure
500	5.00 (127.0)	18.8 (476)	5.90 (149.9)	As per casing weight	2.25 (14.5)	Limited by casing pressure
500 (Slim-Hole)	5.0 (127.0)	25.00 (635)	5.60 (142.2)	As per casing weight	3.76 (24.3)	Limited by casing pressure
550	5.50 (140.0)	20.0 (508)	7.00 (177.8)	As per casing weight	3.61 (23.2)	Limited by casing pressure
550 (Slim-Hole)	5.50 (140.0)	22.5 (571.5)	6.06 (153.9)	As per casing weight	2.25 (14.5)	Limited by casing pressure
663	6.63 (168.0)	26.0 (660)	8.10 (205.7)	As per casing weight	3.76 (24.3)	Limited by casing pressure

¹Premium threading will affect overall length