

## BPS™ Maxx - Toe Initiation Sub

The BPS™ Maxx is designed for use in horizontal completions to establish injection of fluid at the toe without intervention. This feature eliminates the need for intervention using traditional tubing-conveyed perforating guns or wireline tractors as a means of gaining access to the formation at the toe. Eliminating intervention reduces cost and risks normally associated with these operations. Once activated, the high flow area of the BPS Maxx allows for greater injection rates to support plug-n-perf or frac sleeve operations.

The BPS Maxx uses the same field proven technology used with our standard BPS Toe Initiation Sub (over 20,000 installations), but with approximately 3 times greater flow area than our standard offering. Larger flow areas mean less risk in plugging from debris left in the casing after cementing operations. The BPS Maxx is an integrated part of the production casing or liner and can be used in both cemented and uncemented applications. Full ID through the tool eliminates the need for special wiper plugs, thereby reducing operational risk and cost. The BPS Maxx is actuated by applying pressure from the surface of the well. BPS Maxx Toe Initiation Subs can be installed as a single toe port or in multiples to create a full stage cluster. The large diameter of the ports reduces friction pressures through the injection ports.

### Features

- Tool activated with applied pressure at surface
- Engineered rupture disk for desired opening pressure and flow area
- Full bore ID through tool
- High flow area through ports

### Benefits

- Eliminates need for intervention to initiate flow at the toe of a horizontal completion
- Increased accuracy using rupture disk vs. standard shear screws
- Large bore eliminates the need for special wiper plugs
- Atmospheric pressure design eliminates the need to calculate reservoir pressure
- No moving part design ensures debris tolerance during activation

### Applications

- Cemented and open hole horizontal multistage completions
- Acid or proppant fracturing
- High temperature applications, up to 450°F (232°C)
- Toe-frac initiation for plug and perf, ball-drop, coiled tubing shifted sliding sleeve and other cemented installations



### Technical Data

Sizes	Casing size in. (mm)	Length in. (mm)	O.D. in. (Mm)	I.D. in. (mm)	Maximum pressure	Number of ports	Flow area per port	Total flow area
450	4.500 114,30	18.000 457,20	5.750 146,05	As per casing weight	Limited by casing pressure	25	0.44 in <sup>2</sup>	11.0-in <sup>2</sup>
4.500 (Slim Hole)	4.500 114,30	25.120 638,05	5.250 133,35	3.410 86,61	Limited by casing pressure	25	0.44 in <sup>2</sup>	11.0-in <sup>2</sup>
5.000	5.000 127,00	18.800 477,52	5.900 149,86	As per casing weight	Limited by casing pressure	25	0.44 in <sup>2</sup>	11.0-in <sup>2</sup>
5.000 (Slim Hole)	5.000 127,00	27.000 685,80	5.600 142,24	3.875 98,43	Limited by casing pressure	25	0.44 in <sup>2</sup>	11.0-in <sup>2</sup>
5.500	5.500 139,70	20.000 508,00	7.000 177,80	As per casing weight	Limited by casing pressure	24	0.44 in <sup>2</sup>	10.56-in <sup>2</sup>
5.500 (Slim Hole)	5.500 139,70	22.500 571,50	6.375 161,93	As per casing weight	Limited by casing pressure	24	0.44 in <sup>2</sup>	10.56-in <sup>2</sup>
663	6.625 168,28	26.000 660,40	8.100 205,74	As per casing weight	Limited by casing pressure	24	0.44 in <sup>2</sup>	10.56-in <sup>2</sup>

<sup>1</sup> Premium threading will affect overall length  
Standard Material: 4140-415, P110, 125 KSI MYS.